Group IV. No. 157 Price 10 cents

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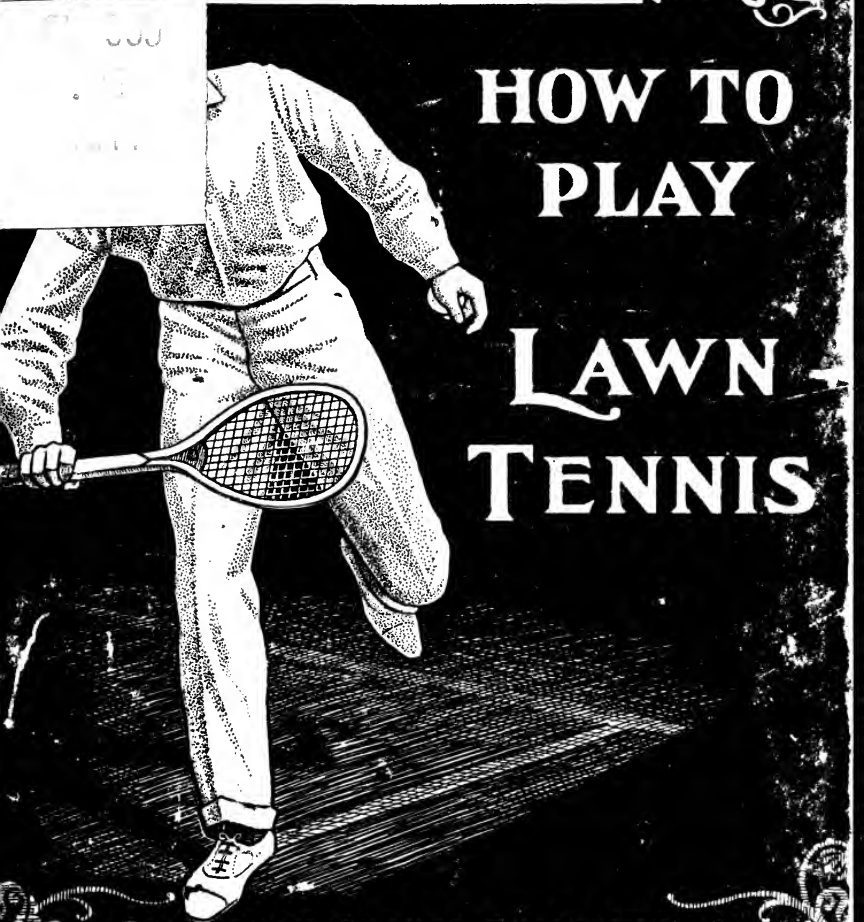
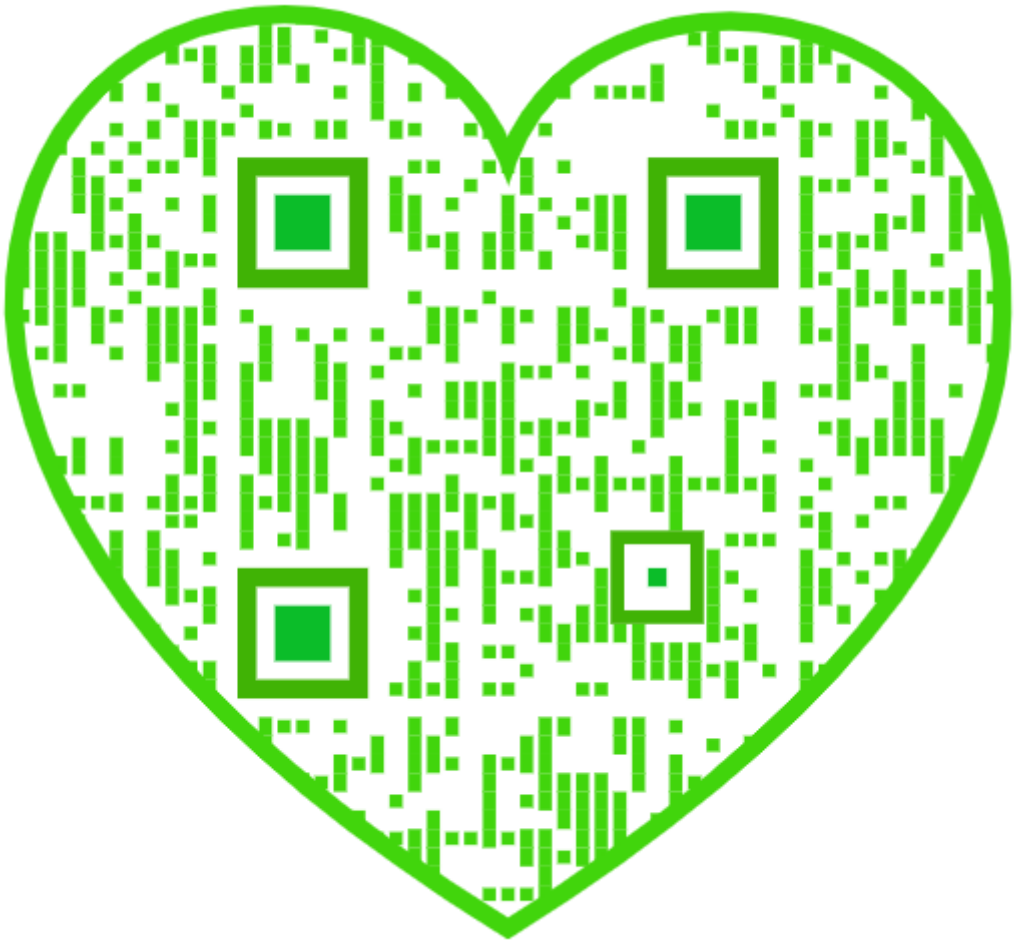


# HOW TO PLAY LAWN TENNIS

AMERICAN SPORTS PUBLISHING CO.
21 Warren Street, New York



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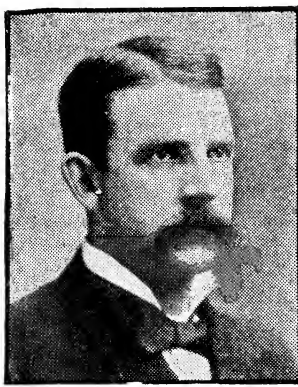
# Spalding's Athletic Library



A. G. SPALDING

Anticipating the present tendency of the American people toward a healthful method of living and enjoyment, Spalding's Athletic Library was established in 1892 for the purpose of encouraging athletics in every form, not only by publishing the official rules and records pertaining to the various pastimes, but also by instructing, until to-day Spalding's Athletic Library is unique in its own particular field and has been conceded the greatest educational series on athletic and physical training subjects that has ever been compiled.

The publication of a distinct series of books devoted to athletic sports and pastimes and designed to occupy the premier place in America in its class was an early idea of Mr. A. G. Spalding, who was one of the first in America to publish a handbook devoted to athletic sports, Spalding's Official Base Ball Guide being the initial number, which was followed at intervals with other handbooks on the sports prominent in the '70s.

Spalding's Athletic Library has had the advice and counsel of Mr. A. G. Spalding in all of its undertakings, and particularly in all books devoted to the national game. This applies especially to Spalding's Official Base Ball Guide and Spalding's Official Base Ball Record, both of which receive the personal attention of Mr. A. G. Spalding, owing to his early connection with the game as the leading pitcher of the champion Boston and Chicago teams of 1872-76. His interest does not stop, however, with matters pertaining to base ball; there is not a sport that Mr. Spalding does not make it his business to become familiar with, and that the Library will always maintain its premier place, with Mr. Spalding's able counsel at hand, goes without saying.

The entire series since the issue of the first number has been under the direct personal supervision of Mr. James E. Sullivan, President of the American Sports Publishing Company, and the total series of consecutive numbers reach an aggregate of considerably over three hundred, included in which are many "annuals," that really constitute the history of their particular sport in America year by year, back copies of which are even now eagerly sought for, constituting as they do the really first authentic records of events and official rules that have ever been consecutively compiled.

When Spalding's Athletic Library was founded, seventeen years ago, track and field athletics were practically unknown outside the larger colleges and a few athletic clubs in the leading cities, which gave occasional meets, when an entry list of 250 competitors was a subject of comment; golf was known only by a comparatively few persons; lawn tennis had some vogue and base ball was practically the only established field

sport, and that in a professional way; basket ball had just been invented; athletics for the schoolboy—and schoolgirl—were almost unknown, and an advocate of class contests in athletics in the schools could not get a hearing. To-day we find the greatest body of athletes in the world is the Public Schools Athletic League of Greater New York, which has had an entry list at its annual games of over two thousand, and in whose "elementary series" in base ball last year 106 schools competed for the trophy emblematic of the championship.

While Spalding's Athletic Library cannot claim that the rapid growth of athletics in this country is due to it solely, the fact cannot be denied that the books have had a great deal to do with its encouragement, by printing the official rules and instructions for playing the various games at a nominal price, within the reach of everyone, with the sole object that its series might be complete and the one place where a person could look with absolute certainty for the particular book in which he might be interested.

In selecting the editors and writers for the various books, the leading authority in his particular line has been obtained, with the result that no collection of books on athletic subjects can compare with Spalding's Athletic Library for the prominence of the various authors and their ability to present their subjects in a thorough and practical manner.

A short sketch of a few of those who have edited some of the leading numbers of Spalding's Athletic Library is given herewith:

## JAMES E. SULLIVAN

President American Sports Publishing Company; entered the publishing house of Frank Leslie in 1878, and has been connected continuously with the publishing business since then and also as athletic editor of various New York papers; was a competing athlete; one of the organizers of the Amateur Athletic Union of the United States; has been actively on its board of governors since its organization until the present time, and President for two successive terms; has attended every championship meeting in America since 1879 and has officiated in some capacity in connection with American amateur championships track and field games for nearly twenty-five years; assistant American director Olympic Games, Paris, 1900; director Pan-American Exposition athletic department, 1901; chief department physical culture Louisiana Purchase Exposition, St. Louis, 1904; secretary American Committee Olympic Games, at Athens, 1906; honorary director of Athletics at Jamestown Exposition, 1907; secretary American Committee Olympic Games, at London, 1908; member of the Pastime A. C., New York; honorary member Missouri A. C., St. Louis; honorary member Olympic A. C., San Francisco; ex-president Pastime A. C., New Jersey A. C., Knickerbocker A. C.; president Metropolitan Association of the A. A. U. for fifteen years; president Outdoor Recreation League; with Dr. Luther H. Gulick organized the Public Schools Athletic League of New York, and is now chairman of its games committee and member executive committee; was a pioneer in playground work and one of the organizers of the Outdoor Recreation League of New York; appointed by President Roosevelt as special commissioner to the Olympic Games at Athens, 1906, and decorated by King George I. of the Hellenes (Greece) for his services in connection with the Olympic Games; appointed special commissioner by President Roosevelt to the Olympic Games at London, 1908; appointed by Mayor McClellan, 1908, as member of the Board of Education of Greater New York.

## WALTER CAMP

For quarter of a century Mr. Walter Camp of Yale has occupied a leading position in college athletics. It is immaterial what organization is suggested for college athletics, or for the betterment of conditions, insofar as college athletics is concerned, Mr. Camp has always played an important part in its conferences, and the great interest in and high plane of college sport to-day, are undoubtedly due more to Mr. Camp than to any other individual. Mr. Camp has probably written more on college athletics than any other writer and the leading papers and magazines of America are always anxious to secure his expert opinion on foot ball, track and field athletics, base ball and rowing. Mr. Camp has grown up with Yale athletics and is a part of Yale's remarkable athletic system. While he has been designated as the "Father of Foot Ball," it is a well known fact that during his college career Mr. Camp was regarded as one of the best players that ever represented Yale on the base ball field, so when we hear of Walter Camp as a foot ball expert we must also remember his remarkable knowledge of the game of base ball, of which he is a great admirer. Mr. Camp has edited Spalding's Official Foot Ball Guide since it was first published, and also the Spalding Athletic Library book on How to Play Foot Ball. There is certainly no man in American college life better qualified to write for Spalding's Athletic Library than Mr. Camp.

## DR. LUTHER HALSEY GULICK

The leading exponent of physical training in America; one who has worked hard to impress the value of physical training in the schools; when physical training was combined with education at the St. Louis Exposition in 1904 Dr. Gulick played an important part in that congress; he received several awards for his good work and had many honors conferred upon him; he is the author of a great many books on the subject; it was Dr. Gulick, who, acting on the suggestion of James E. Sullivan, organized the Public Schools Athletic League of Greater New York, and was its first Secretary; Dr. Gulick was also for several years Director of Physical Training in the public schools of Greater New York, resigning the position to assume the Presidency of the Playground Association of America. Dr. Gulick is an authority on all subjects pertaining to physical training and the study of the child.

## JOHN B. FOSTER

Successor to the late Henry Chadwick ("Father of Base Ball") as editor of Spalding's Official Base Ball Guide; sporting editor of the New York Evening Telegram; has been in the newspaper business for many years and is recognized throughout America as a leading writer on the national game; a staunch supporter of organized base ball, his pen has always been used for the betterment of the game.

## TIM MURNANE

Base Ball editor of the Boston Globe and President of the New England League of Base Ball Clubs; one of the best known base ball men of the country; known from coast to coast; is a keen follower of the game and prominent in all its councils; nearly half a century ago was one of America's foremost players; knows the game thoroughly and writes from the point of view both of player and an official.

## HARRY PHILIP BURCHELL

Sporting editor of the New York Times; graduate of the University of Pennsylvania; editor of Spalding's Official Lawn Tennis Annual; is an authority on the game; follows the movements of the players minutely and understands not only tennis but all other subjects that can be classed as athletics; no one is better qualified to edit this book than Mr. Burchell.

## GEORGE T. HEPBRON

Former Young Men's Christian Association director; for many years an official of the Athletic League of Young Men's Christian Associations of North America; was connected with Dr. Luther H. Gulick in Young Men's Christian Association work for over twelve years; became identified with basket ball when it was in its infancy and has followed it since, being recognized as the leading exponent of the official rules; succeeded Dr. Gulick as editor of the Official Basket Ball Guide and also editor of the Spalding Athletic Library book on How to Play Basket Ball.

## JAMES S. MITCHEL

Former champion weight thrower; holder of numerous records, and is the winner of more championships than any other individual in the history of sport; Mr. Mitchel is a close student of athletics and well qualified to write upon any topic connected with athletic sport; has been for years on the staff of the New York Sun.

## MICHAEL C. MURPHY

The world's most famous athletic trainer; the champion athletes that he has developed for track and field sports, foot ball and base ball fields, would run into thousands; he became famous when at Yale University and has been particularly successful in developing what might be termed championship teams; his rare good judgment has placed him in an enviable position in the athletic world; now with the University of Pennsylvania; during his career has trained only at two colleges and one athletic club, Yale and the University of Pennsylvania and Detroit Athletic Club; his most recent triumph was that of training the famous American team of athletes that swept the field at the Olympic Games of 1908 at London.

## DR. C. WARD CRAMPTON

Succeeded Dr. Gulick as director of physical training in the schools of Greater New York; as secretary of the Public Schools Athletic League is at the head of the most remarkable organization of its kind in the world; is a practical athlete and gymnast himself, and has been for years connected with the physical training system in the schools of Greater New York, having had charge of the High School of Commerce.

## DR. GEORGE J. FISHER

Has been connected with Y. M. C. A. work for many years as physical director at Cincinnati and Brooklyn, where he made such a high reputation as organizer that he was chosen to succeed Dr. Luther H. Gulick as Secretary of the Athletic League of Y. M. C. A.'s of North America, when the latter resigned to take charge of the physical training in the Public Schools of Greater New York.

## DR. GEORGE ORTON

On athletics, college athletics, particularly track and field, foot ball, soccer foot ball, and training of the youth, it would be hard to find one better qualified than Dr. Orton; has had the necessary athletic experience and the ability to impart that experience intelligently to the youth of the land; for years was the American, British and Canadian champion runner.

## FREDERICK R. TOOMBS

A well known authority on skating, rowing, boxing, racquets, and other athletic sports; was sporting editor of American Press Association, New York; dramatic editor; is a lawyer and has served several terms as a member of Assembly of the Legislature of the State of New York; has written several novels and historical works.

## R. L. WELCH

A resident of Chicago; the popularity of indoor base ball is chiefly due to his efforts; a player himself of no mean ability; a first-class organizer; he has followed the game of indoor base ball from its inception.

## DR. HENRY S. ANDERSON

Has been connected with Yale University for years and is a recognized authority on gymnastics; is admitted to be one of the leading authorities in America on gymnastic subjects; is the author of many books on physical training.

## CHARLES M. DANIELS

Just the man to write an authoritative book on swimming; the fastest swimmer the world has ever known; member New York Athletic Club swimming team and an Olympic champion at Athens in 1906 and London, 1908. In his book on Swimming, Champion Daniels describes just the methods one must use to become an expert swimmer.

## GUSTAVE BOJUS

Mr. Bojus is most thoroughly qualified to write intelligently on all subjects pertaining to gymnastics and athletics; in his day one of America's most famous amateur athletes; has competed successfully in gymnastics and many other sports for the New York Turn Verein; for twenty years he has been prominent in teaching gymnastics and athletics; was responsible for the famous gymnastic championship teams of Columbia University; now with the Jersey City high schools.

## CHARLES JACOBUS

Admitted to be the "Father of Roque;" one of America's most expert players, winning the Olympic Championship at St. Louis in 1904; an ardent supporter of the game and follows it minutely, and much of the success of roque is due to his untiring efforts; certainly there is no one better qualified to write on this subject than Mr. Jacobus.

## DR. E. B. WARMAN

Well known as a physical training expert; was probably one of the first to enter the field and is the author of many books on the subject; lectures extensively each year all over the country.

## W. J. CROMIE

Now with the University of Pennsylvania; was formerly a Y. M. C. A. physical director; a keen student of all gymnastic matters; the author of many books on subjects pertaining to physical training.

## G. M. MARTIN

By profession a physical director of the Young Men's Christian Association; a close student of all things gymnastic, and games for the classes in the gymnasium or clubs.

## PROF. SENAC

A leader in the fencing world; has maintained a fencing school in New York for years and developed a great many champions; understands the science of fencing thoroughly and the benefits to be derived therefrom.

# SPALDING ATHLETIC LIBRARY

**Giving the Titles of all Spalding Athletic Library Books now in print, grouped for ready reference**

## No. SPALDING OFFICIAL ANNUALS

**1 Spalding's Official Base Ball Guide**
**1A Spalding's Official Base Ball Record**
**1C Spalding's Official Collegiate Base Ball Annual**
**2 Spalding's Official Foot Ball Guide**
**2A Spalding's Official Soccer Foot Ball Guide**
**3 Spalding's Official Cricket Guide**
**4 Spalding's Official Lawn Tennis Annual**
**5 Spalding's Official Golf Guide**
**6 Spalding's Official Ice Hockey Guide**
**7 Spalding's Official Basket Ball Guide**
**7A Spalding's Official Women's Basket Ball Guide**
**8 Spalding's Official Lacrosse Guide**
**9 Spalding's Official Indoor Base Ball Guide**
**10 Spalding's Official Roller Polo Guide**
**12 Spalding's Official Athletic Almanac**
**12A Spalding's Official Athletic Rules**

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No. 1 *Spalding's Official Base Ball Guide*
No. 1A Official Base Ball Record.
No. 1C Collegiate Base Ball Annual.
No. 202 How to Play Base Ball.
No. 223 How to Bat.
No. 232 How to Run Bases.
No. 230 How to Pitch.
No. 229 How to Catch.
No. 225 How to Play First Base.
No. 226 How to Play Second Base.
No. 227 How to Play Third Base.
No. 228 How to Play Shortstop.
No. 224 How to Play the Outfield.
No. 231. How to Organize a Base Ball League. [Club.
How to Organize a Base Ball Club.
How to Manage a Base Ball Club.
How to Train a Base Ball Team
How to Captain a Base Ball
How to Umpire a Game. [Team
Technical Base Ball Terms.
No. 219 Ready Reckoner of Base Ball Percentages.
No. 350 How to Score.

BASE BALL AUXILIARIES

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No. 352 Official Book National League of Prof. Base Ball Clubs.
No. 340 Official Handbook National Playground Ball Assn.

### Group II. Foot Ball

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No. 344 A Digest of the Foot Ball Rules
No. 324 How to Play Foot Ball.
No. 2A *Spalding's Official Soccer Foot Ball Guide.*
No. 286 How to Play Soccer.
No. 335 How to Play Rugby.

FOOT BALL AUXILIARY

No. 343 Official Rugby Foot Ball Guide.
No. 332 Spalding's Official Canadian Foot Ball Guide.

### Group III. Cricket

No. 3 *Spalding's Official Cricket Guide.*
No. 277 Cricket and How to Play It.

### Group IV. Lawn Tennis

No. 4 *Spalding's Official Lawn Tennis Annual.*
No. 157 How to Play Lawn Tennis.
No. 279 Strokes and Science of Lawn Tennis.

### Group V. Golf

No. 5 *Spalding's Official Golf Guide*
No. 276 How to Play Golf.

### Group VI. Hockey

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No. 304 How to Play Ice Hockey.
No. 154 Field Hockey.
No. 188 Lawn Hockey.
Parlor Hockey.
Garden Hockey.
No. 180 Ring Hockey.

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No. 256 Official Handbook Ontario Hockey Association.

### Group VII. Basket Ball

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No. 7A *Spalding's Official Women's Basket Ball Guide.*
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BASKET BALL AUXILIARY

No. 323 Official Collegiate Basket Ball Handbook.

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No. 261 Tensing Exercises. [nastics.
No. 285 Health by Muscular Gym-
No. 288 Indigestion Treated by Gym-
No. 290 Get Well; Keep Well. [nastics.
No. 325 Twenty-Minute Exercises.
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## Group I. Base Ball

**No. 1—Spalding's Official Base Ball Guide.**

The leading Base Ball annual of the country, and the official authority of the game. Contains the official playing rules, with an explanatory index of the rules compiled by Mr. A. G. Spalding; pictures of all the teams in the National, American and minor leagues; reviews of the season; college Base Ball, and a great deal of interesting information. Price 10 cents.

**No. 1A—Spalding's Official Base Ball Record.**

Something new in Base Ball. Contains records of all kinds from the beginning of the National League and official averages of all professional organizations for past season. Illustrated with pictures of leading teams and players. Price 10 cents.

**No. 1C—Spalding's Official Collegiate Base Ball Annual.**

Contains matters of interest exclusively for the college player; pictures and records of all the leading colleges. Price 10 cents.

**No. 202—How to Play Base Ball.**

Edited by Tim Murnane. New and revised edition. Illustrated with pictures showing how all the various curves and drops are thrown and portraits of leading players. Price 10 cents.

**No. 223—How to Bat.**

There is no better way of becoming a proficient batter than by reading this book and practising the directions. Numerous illustrations. Price 10 cents.

**No. 232—How to Run the Bases.**

This book gives clear and concise directions for excelling as a base runner; tells when to run and when not to do so; how and when to slide; team work on the bases; in fact, every point of the game is thoroughly explained. Illustrated. Price 10 cents.

**No. 230—How to Pitch.**

A new, up-to-date book. Its contents are the practical teaching of men who have reached the top as pitchers, and who know how to impart a knowledge of their art. All the big leagues' pitchers are shown. Price 10 cents.

**No. 229—How to Catch.**

Every boy who has hopes of being a clever catcher should read how well-known players cover their position. Pictures of all the noted catchers in the big leagues. Price 10 cents.

**No. 225—How to Play First Base.**

Illustrated with pictures of all the prominent first basemen. Price 10 cents.

**No. 226—How to Play Second Base.**

The ideas of the best second basemen have been incorporated in this book for the especial benefit of boys who want to know the fine points of play at this point of the diamond. Price 10 cents.

**No. 227—How to Play Third Base.**

Third base is, in some respects, the most important of the infield. All the points explained. Price 10 cents.

**No. 228—How to Play Shortstop.**

Shortstop is one of the hardest positions on the infield to fill, and quick thought and quick action are necessary for a player who expects to make good as a shortstop. Illus. Price 10 cents.

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An invaluable guide for the outfielder. Price 10 cents.

**No. 231—How to Coach; How to Captain a Team; How to Manage a Team; How to Umpire; How to Organize a League; Technical Terms of Base Ball.**

A useful guide. Price 10 cents.

**No 219—Ready Reckoner of Base Ball Percentages.**

To supply a demand for a book which would show the percentage of clubs without recourse to the arduous work of figuring, the publishers had these tables compiled by an expert. Price 10 cents.

### BASE BALL AUXILIARIES.

**No. 348—Minor League Base Ball Guide.**

The minors' own guide. Edited by President T. H. Murnane, of the New England League. Price 10 cents.

# SPALDING ATHLETIC LIBRARY

**No. 338—Official Handbook of the National League of Professional Base Ball Clubs.**

Contains the Constitution, By-Laws, Official Rules, Averages, and schedule of the National League for the current year, together with list of club officers and reports of the annual meetings of the League. Price 10 cents.

**No. 340—Official Handbook National Playground Ball Association.**

This game is specially adapted for playgrounds, parks, etc., is spreading rapidly. The book contains a description of the game, rules and list of officers. Price 10 cents.

## Group II. Foot Ball

**No. 2—Spalding's Official Foot Ball Guide.**

Edited by Walter Camp. Contains the new rules, with diagram of field; All-America teams as selected by the leading authorities; reviews of the game from various sections of the country; scores; pictures. Price 10 cents.

**No. 344—A Digest of the Foot Ball Rules.**

This book is meant for the use of officials, to help them to refresh their memories before a game and to afford them a quick means of ascertaining a point during a game. It also gives a ready means of finding a rule in the Official Rule Book, and is of great help to a player in studying the Rules. Compiled by C. W. Short, Harvard, 1908. Price 10 cents.

**No. 324—How to Play Foot Ball.**

Edited by Walter Camp, of Yale. Everything that a beginner wants to know and many points that an expert will be glad to learn. Snapshots of leading teams and players in action, with comments by Walter Camp. **Price 10 cents.**

**No. 2A—Spalding's Official Association Soccer Foot Ball Guide.**

A complete and up-to-date guide to the "Soccer" game in the United States, containing instructions for playing the game, official rules, and interesting news from all parts of the country. Illustrated. Price 10 cents.

**No. 286—How to Play Soccer.**

How each position should be played, written by the best player in England in his respective position, and illustrated with full-page photographs of players in action. Price 10 cents.

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Compiled in England by "Old International." Contains directions for playing the various positions, with diagrams and illustrations. Price 10 cents.

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The official book of the game in Canada. Price 10 cents.

**No. 343—Official Rugby Foot Ball Guide.**

The official handbook of the Rugby game, containing the official playing rules, referee's decisions, articles on the game in the United States and pictures of leading teams. Price 10 cents.

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**No. 277—Cricket; and How to Play It.**

By Prince Ranjitsinhji. The game described concisely and illustrated with full-page pictures posed especially for this book. **Price 10 cents.**

# SPALDING ATHLETIC LIBRARY

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Contents include reports of all important tournaments; official ranking from 1885 to date; laws of lawn tennis; instructions for handicapping; decisions on doubtful points; management of tournaments; directory of clubs; laying out and keeping a court. Illustrated. Price 10 cents

**No. 157—How to Play Lawn Tennis.**

A complete description of lawn tennis; a lesson for beginners and directions telling how to make the most important strokes. Illustrated. Price 10 cents.

**No. 279—Strokes and Science of Lawn Tennis.**

By P. A. Vaile, a leading authority on the game in Great Britain. Every stroke in the game is accurately illustrated and analyzed by the author. Price 10 cents.

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**No. 5—Spalding's Official Golf Guide.**

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**No. 276—How to Play Golf.**

By James Braid and Harry Vardon, the world's two greatest players tell how they play the game, with numerous full-page pictures of them taken on the links. Price 10 cents.

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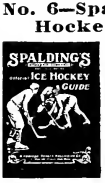
**No. 6—Spalding's Official Ice Hockey Guide.**

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# HOW TO PLAY
# LAWN TENNIS

Containing Practical Instruction from an Expert on Making Lawn Tennis Strokes. Brief Description and History of the Game

and other useful information

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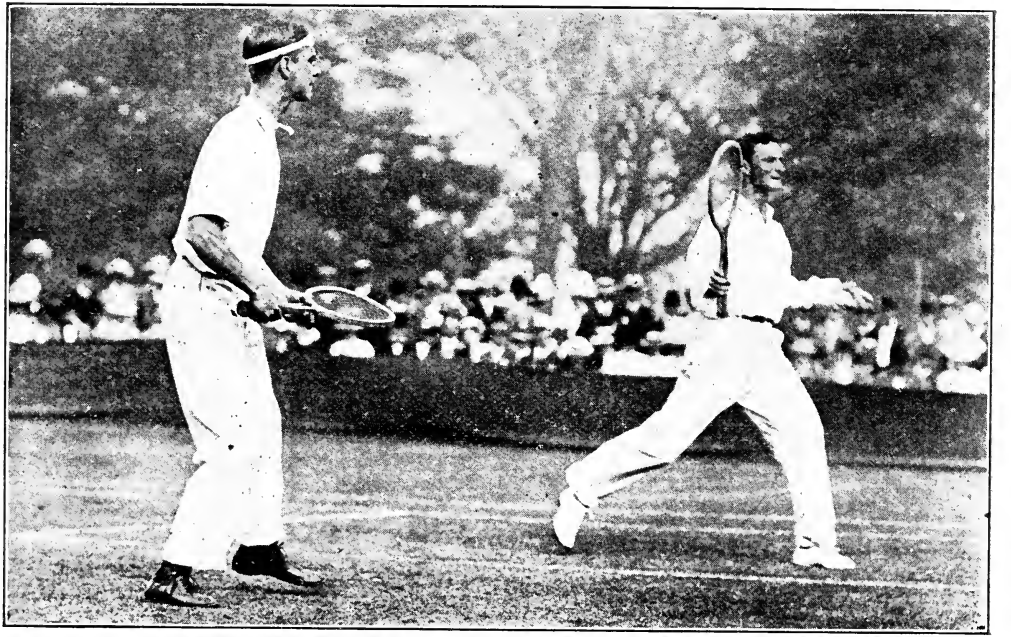

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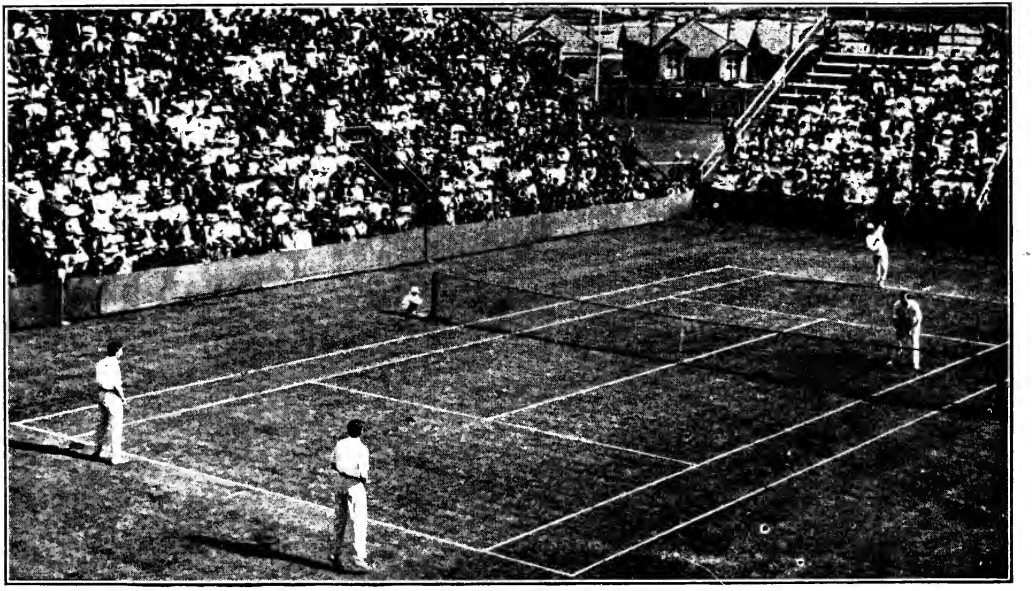
## General Description of Lawn Tennis.

Lawn tennis is played by two, three or four people (though very seldom by three) on a smooth stretch of ground called a court. The playing surface of this court is 27 feet (for singles), or 36 feet (for doubles) in width and 78 feet in length, and it is laid out on a level surface of grass or turf, or occasionally on a board floor under a covered roof in winter. The court is marked out with white lines on the ground indicating the boundaries, and the space is divided in two by a net three feet in height stretched across the centre from side to side.

Each player is armed with a racket, which is a wooden frame about a foot long and eight inches wide, the oval open space being covered with a fine network of catgut strings, and the frame supplied with a handle about 15 inches long. With this racket the players strike a ball 2½ inches in diameter, of rubber filled with compressed air and covered with felt.

This ball is knocked from one side of the net to the other back and forth until one side misses it—that is, fails to hit it at all, or knocks it into the net, or out of the court. Either side scores a point when the opponent fails to return the ball into his court. The object of the game, therefore, is to knock the ball into the opponent's court so that he cannot return it.

The first player to hit the ball is called the server (he is chosen by lot) and he throws the ball up into the air and knocks it over the net and into the court on the opposite side. After this service is delivered, each side must strike the ball in turn, hitting it either before it touches the ground (a volley) or after it has bounded only once. It is against the rule to



McLoughlin and Long (in foreground) vs. Brookes and Wilding.

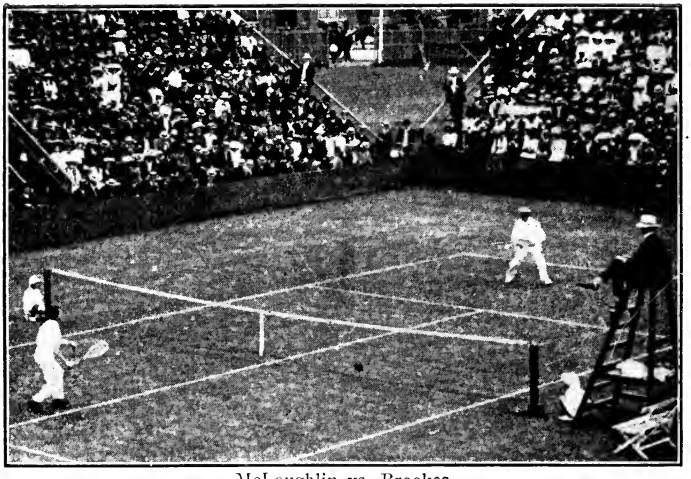
DAVIS CUP MATCHES AT SYDNEY.

volley in returning the service, but after this second stroke of each point, it is optional with the players whether they volley or return the ball on the first bounce.

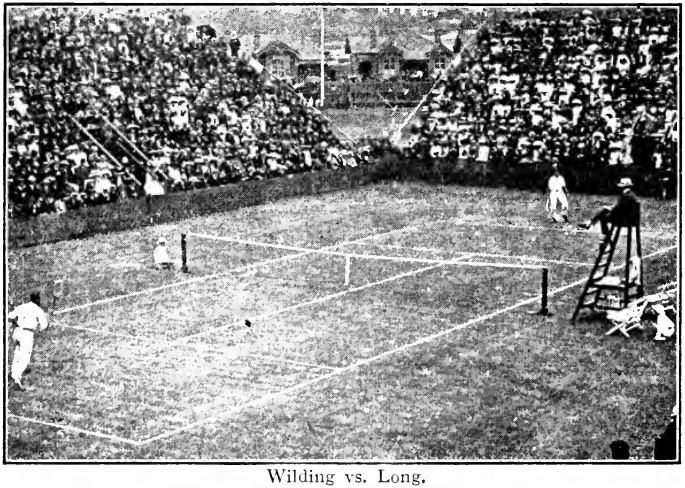
The method of scoring is simple. The first point won for either side counts 15, and if each side should win one of the two first points, the score becomes 15—all, "all" meaning "even" in every case. The server's score is always called first and the first point therefore makes the score 15—love, or love—15 (according to whether the server or his opponent wins the first point). "Love" means nothing in tennis scoring. The second point for either side is 30 and the third 40. If the server wins the first two strokes, the score is 30—love; if won by the opponent, it is love—30; if each has won a point, the third count then makes the score 30—15, or 15—30, according to whether the server or his opponent is ahead. Thirty-all follows when each side has won two points; 40—30 or 30—40 when one side has two and the other side three.

Either side wins a game when it has scored four points, unless each side wins three points, which would make the score 40—all, but which is called "deuce" instead. Here lies the only intricacy in the method of scoring. When both sides are tied at 40, or three points each, the score is deuce, and one side must win two more strokes than the other from this point in order to win the game—in other words, if the score once gets even at 40, neither side can win by a single point. From deuce, the score becomes "vantage-in" or "vantage-out," according to whether the server or his opponent is ahead (the server is always "in" and the opponent "out"). With vantage in his favor, either side can win the game by capturing the next point, but if it goes to the other side, the score returns to deuce again, and so on indefinitely until one side or the other has won two points in succession from deuce.

When a game has been won, the other side becomes the server, the service alternating with the games. The score by games is called with the server's score first, or sometimes in matches with the side that is ahead first. When the games are even, the score is called at 1—all, 2—all, 3—all or 4—all as the case may



McLoughlin vs. Brookes.



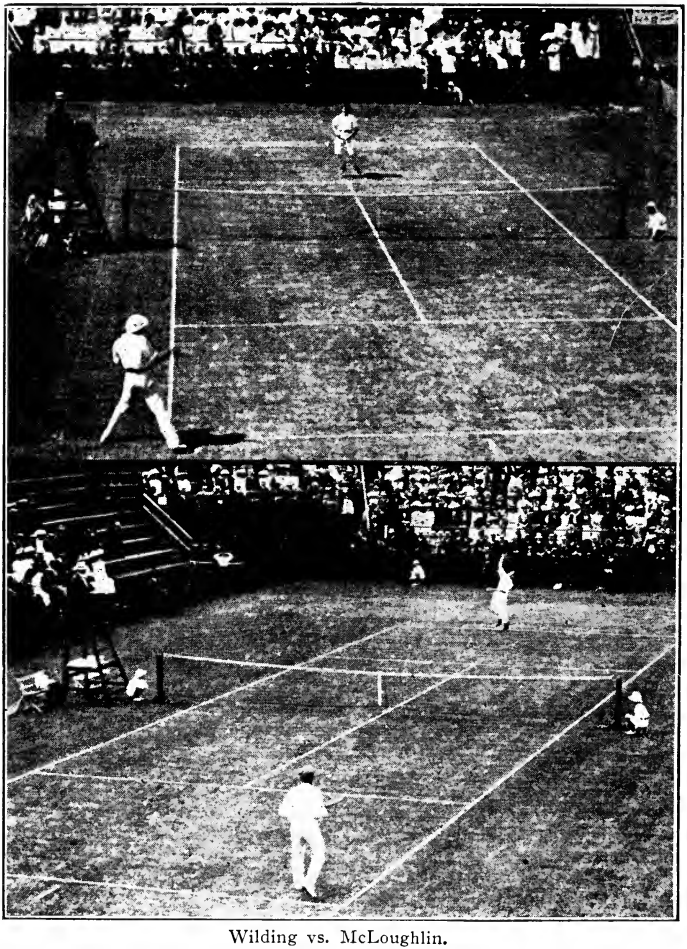
Wilding vs. Long.

DAVIS CUP MATCHES AT SYDNEY.

be, but if it is even at 5—all, then deuce and vantage games are played just as in points during the games. Five—all is deuce and from this point it is necessary for one side or the other to win two games in succession to take the set, that is, as in the games, the set cannot be won by a majority of one, the winner must score at least two or more games than the loser. Most matches are the best two in three sets, although some championship matches are the best three in five sets.

The server must always strike the ball in the air before it touches the ground, but the opponent, who is known technically as the striker-out, is not allowed to strike the ball when first served until after it has bounded once. After these first two strokes, one from either side, the ball is always in play until one side or the other fails to return the ball properly and the opponent then scores a point. Either player, after the first stroke from either side, may play the ball before it has touched the ground, which is called a volley, or after it has struck and bounded once. If it is allowed to touch the ground a second time, the point is lost.

A drive is a fast hard stroke played underhand from the back of the court, and a smash is an overhand volley played very hard and fast to "kill" the ball by the speed of the stroke. A lob is a ball knocked up into the air to pass over an opponent's head, when he is at the net, or to gain time. To cut the ball is to strike it sideways, so that it twists rapidly on its own axis, like a billiard ball with "English," which makes it bound crooked.



Wilding vs. McLoughlin.
Brookes vs. Long.

DAVIS CUP MATCHES AT SYDNEY.

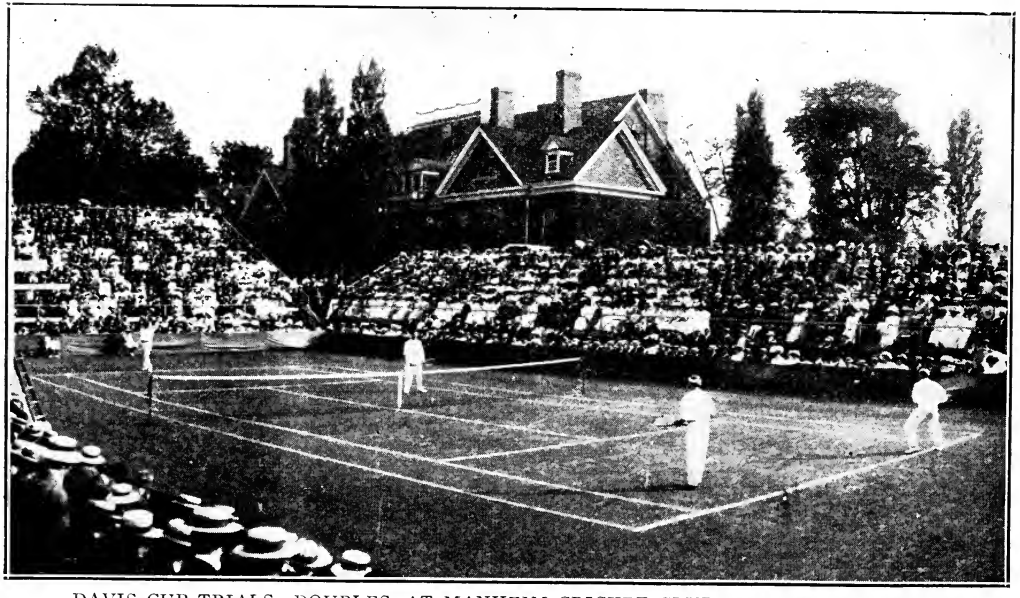
## A Brief History of the Game.

Lawn tennis is essentially a modern game, for its origin dates back less than forty years. Its genealogy is rather obscure, and the best authorities disagree as to its direct parentage. The first record of any such game in Europe, however, occurs in the Middle ages, when a crude form of tennis was the favorite sport of the Italian and French feudal kings and nobles. The French seem to have borrowed the game from the Italians, and they called it *la longue paume;* in Italy it was known under the name of *pallone.*

This French game was played with a cork ball, which was originally struck with the hand over a bank of earth, which served the same purpose as our modern net. Soon a crude racket with wooden frame and handle and gut strings was substituted, and in this form the game was introduced into England and flourished there for many years.

Major Walter C. Wingfield, of the British army, is popularly credited with the invention of lawn tennis, as we know it, for he patented the game in 1874. His original game was played on a court shaped like an hour-glass, 60 feet in length and 30 feet in width at the base-lines. In the center was stretched a net 21 feet wide and 7 feet high at its sides, which sagged to 4 feet 8 inches in the centre. The old method of racquet scoring was used, and the server was required to stand within a marked space in the middle of his court.

In March, 1875, the first regular laws for the game were formulated by the Marylebone Cricket Club, of Lord's. The club's committee selected the name of lawn tennis, and promulgated a new set of rules that were accepted by Major Wingfield and a large majority of those who had taken up the new game. They set the length of the court at 78 feet, and there it has remained to this day; but they still preserved the hour-glass form, and the breadth required by their first rules was 30 feet at the base-lines

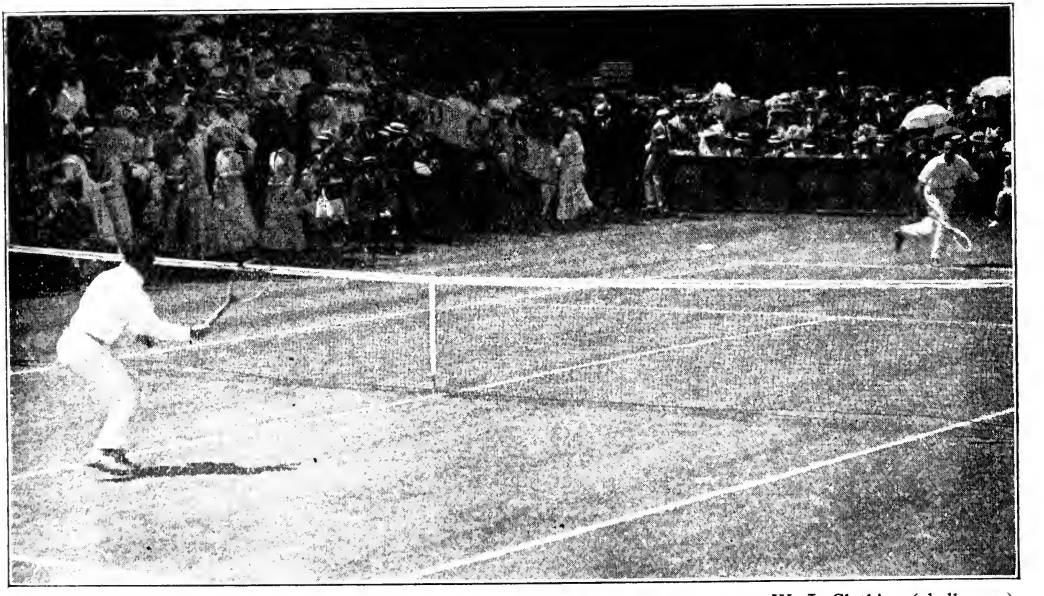


DAVIS CUP TRIALS—DOUBLES, AT MANHEIM CRICKET CLUB, PHILADELPHIA, PA., SEPTEMBER 13, 1909.

and 24 feet at the net. The net was set at 4 feet high in the centre and 5 feet at the posts, and the service-line at 26 feet from the net. The racquet system of scoring, with one or two minor alterations, was also preserved.

At the urgent suggestion of Henry Jones, who afterward became famous as the "Cavendish" of whist, the All-English Croquet Club, whose grounds at Wimbledon have since become famous the world over, opened its lawns to lawn tennis in 1875, and so popular did the game become that an All-England championship meeting—the first of the series which has represented the amateur championship of England—was held in July, 1877, the name of the club being then changed to the All-England Croquet and Lawn Tennis Club. This first tournament was eminently successful, and the All-England club assumed control of the new game. By common consent its decisions were universally respected In 1883 an attempt was made to form a National Association, but as the All-England Club declined to enter into the project, it was a failure, and in its place an annual meeting of club secretaries was held under the auspices of the All-England Club, for the purpose of legislation, until 1888, when the present English Lawn Tennis Association was formed as a national body to govern the sport. The authority of this organization has never since been questioned, and its decisions have been accepted throughout the continent and British colonies. The only part of the world where separate laws are made is the United States, and even here the English rules and changes are carefully considered before any alteration is made.

Major Wingfield's crude lawn tennis game first made its appearance in America in 1874, the same year it came out in England. A Bostonian, who was traveling abroad, brought home a set of Wingfield's rules and implements for the game, and a court was laid out at his country home at Nahant, a seaside resort near Boston. Another court made its appearance at Newport the following spring, and the Staten Island Cricket and Base Ball Club, near New York, also took up the game in 1875. At Philadelphia, too, the game was introduced at the Young America Cricket Club's grounds, and soon grew popular.



W. A. Larned (champion). W. J. Clothier (challenger).

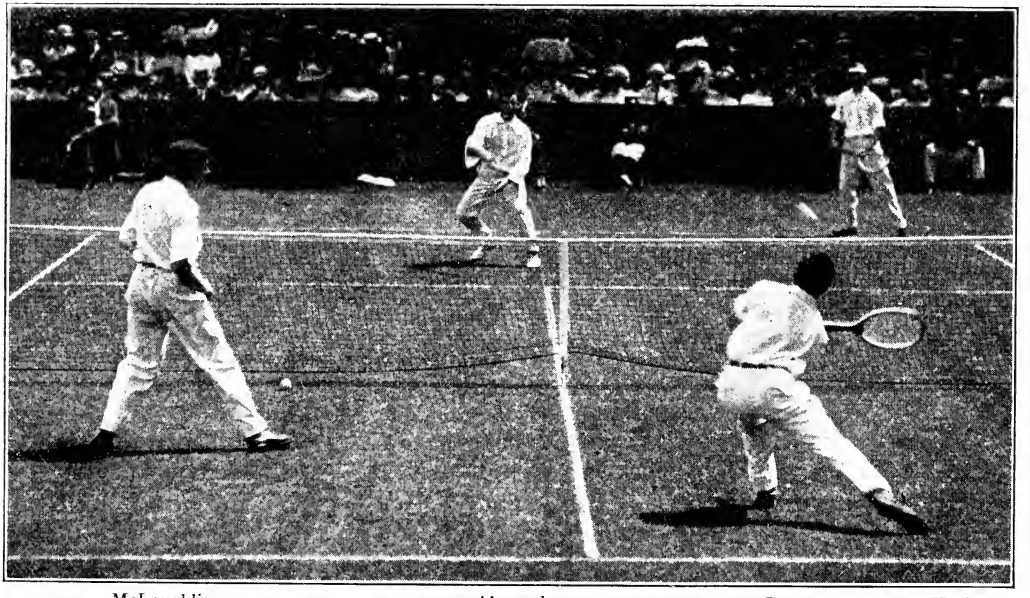
NATIONAL CHAMPIONSHIPS AT NEWPORT, 1909. Alman, Photo.

During the first few years of its American existence lawn tennis was played under widely varying conditions, but the distance between the points of play being too great to let these differences become apparent until open tournaments were held. The nets hung at different heights, the courts varied somewhat in size, and the balls differed materially both as to size and weight. Local tournaments were held at Newport, Boston, Philadelphia and Staten Island, but it was not until 1880 when James Dwight and Richard D. Sears, of Boston, who were afterward so famous in lawn tennis, played at Staten Island and Philadelphia, that the full importance of this confusion became apparent.

The following spring in May, 1881, a meeting was held in New York, and the present United States National Lawn Tennis Association was formed. The English rules, as then in vogue, were adopted almost in their entirety and the English championship balls were also accepted as official for all American tournaments. It was decided shortly afterward to hold an annual championship tournament at the Newport Casino, and a series was started that has since been continued regularly every year, becoming second in importance only to the Wimbledon event.

Dwight and Sears were distinctly superior to all other players in America during this early period, and their only dangerous rivals for several years were the Clark brothers, of Philadelphia. But the game spread very rapidly in American soil, and new courts and new players sprang up on every hand, although Sears managed to retain his title as champion for seven successive years. During this time, the play developed rapidly and the skill of the players increased with wonderful speed, but Sears kept place with all improvements and managed to keep well ahead of all his rivals until an injury to his shoulder made it difficult for him to play, and he retired on his laurels unbeaten.

During the first seven years of American lawn tennis, R. D. Sears was invincible. The first three seasons he played through each tournament at Newport, and each season won the championship without the loss of a set. In 1884 the present system of barring the champion out of the all-comers' tournament was adopted and Sears successfully defended his title against the



McLoughlin. Alexander. Janes. Hackett.

NATIONAL DOUBLES CHAMPIONSHIP AT NEWPORT, 1909. Alman, Photo.

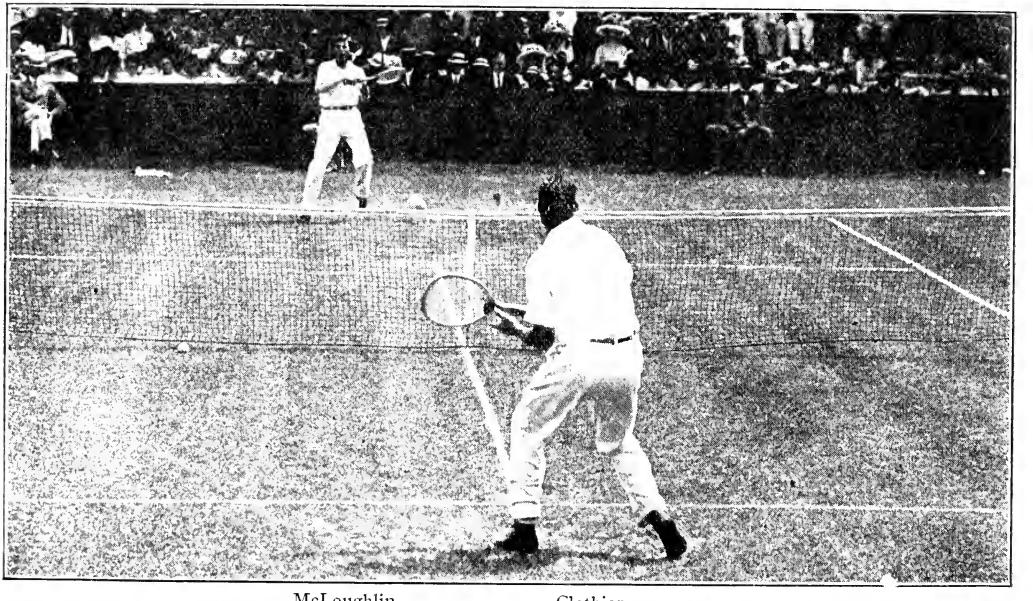
challenge of H. A. Taylor, who was the first challenger for the American championship. Sears beat Taylor rather easily by three sets to one, and the following year he repeated his success over C. M. Brinley, who was the challenger for 1885.

In 1886 R. L. Beeckman won the Newport tournament and challenged in turn for the championship title. Again was Sears invincible, Beeckman meeting the same fate as both of his predecessors, although he forced the champion to the first close match he played at Newport. A year later H. W. Slocum, Jr., challenged for the title, and he was badly beaten by Sears in straight sets, although he had beaten all of the other leading players of the country in the all-comers' tournament.

Sears's reign ended in 1888, when he voluntarily relinquished his claim to the American championship. He had injured his shoulder and neck somewhat and was forced to give up severe play. Slocum won the Newport tournament again and took the championship by default in Sears's absence. This began the second era in American championship tournaments. Slocum's "tenure of office" lasted only two years. In 1889 Q. A. Shaw, Jr., won the all-comers' tournament at Newport, and was beaten three sets to one by Slocum in the challenge round, but a year later O. S. Campbell, who had been runner-up to Shaw the year before, earned the right to challenge the champion and managed to wrest the championship title from him by three sets to one.

Campbell's successful innovation of extreme net play was the first of many experimental stages American players had yet to go through. He cultivated volleying far beyond his ground-strokes, yet his methods were startlingly successful at home, and he proved invincible for three years. In 1891 Clarence Hobart challenged him for the championship, and was beaten in a five-set challenge match, and the following year F. H. Hovey, of Boston, met a similar fate, although only four sets were required this time to settle the question of supremacy.

The following summer R. D. Wrenn won the all-comers' tournament, beating Hovey unexpectedly in the finals, but before the challenge match could be played, Campbell announced his retirement, so the championship passed into Wrenn's hands by de-



McLoughlin. Clothier.

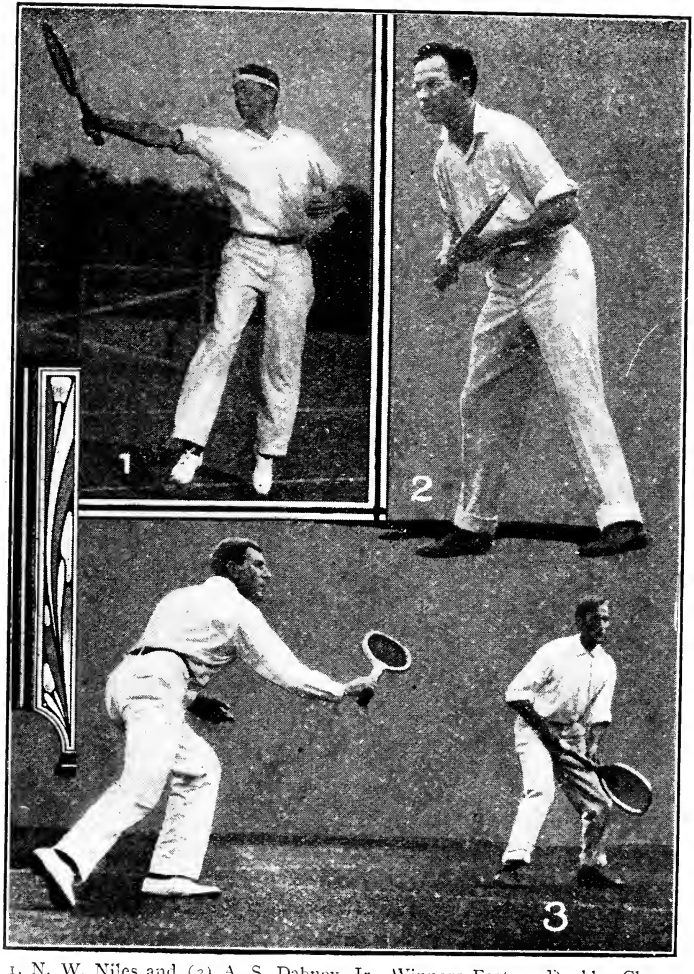
NATIONAL SINGLES CHAMPIONSHIP AT NEWPORT, 1909. Alman, Photo.

fault. Wrenn was another volleyer, but with a good command also of ground-strokes, and the modern era in America then began with Wrenn's advent in 1893, but his style was not fully appreciated until the following year, when M. F. Goodbody, the visiting Irish expert, went through the Newport all-comers' tournament, beating three of the crack American players, Hovey, Hobart and Larned, by superior steadiness. When Goodbody challenged Wrenn, however, it was a different story, and the persistent methods of the American champion showed his style of net play to be a distinct advance over the former American school.

Hovey had learned the lesson of steadiness better than others by the time the next tournament came around, winning the Newport tournament with the loss of only one set, and then challenged Wrenn and beat him in straight sets for the championship.

In 1897, the season was made memorable by the visit to American courts of a team of British players composed of W. V. Eaves, H. S. Mahony and H. A. Nisbet. They were beaten in the international tournaments held at Hoboken, N. J., and Chicago, Ill., and also in an open event at Longwood, Mass., before the championship meeting at Newport. Here Eaves beat Nisbet in the finals and Mahony was retired in an earlier round by M. D. Whitman. Again was Wrenn, the champion, called on to defend the national honors against a challenging Englishman and again he succeeded in defeating the foreigner.

A year later, the war with Spain broke out and both Wrenn and Larned were among the volunteers who went to the front in Cuba. In their absence, the younger generation of American experts had matters very much their own way, and M. D. Whitman loomed up out of the group as the steadiest and in many respects the cleverest. He won the Newport tournament after one or two close matches and so fell heir to the championship title in the absence of Wrenn. The new champion made a wonderful record during 1898, 1899 and 1900, playing steadily through all of the most important American and Canadian tour-




1, N. W. Niles and (2) A. S. Dabney, Jr., Winners Eastern Doubles Championship. W. C. Grant and (3) T. R. Pell, Winners Southern Doubles championship.

naments during the three seasons, and losing three matches the first year, none the second and only one the third.

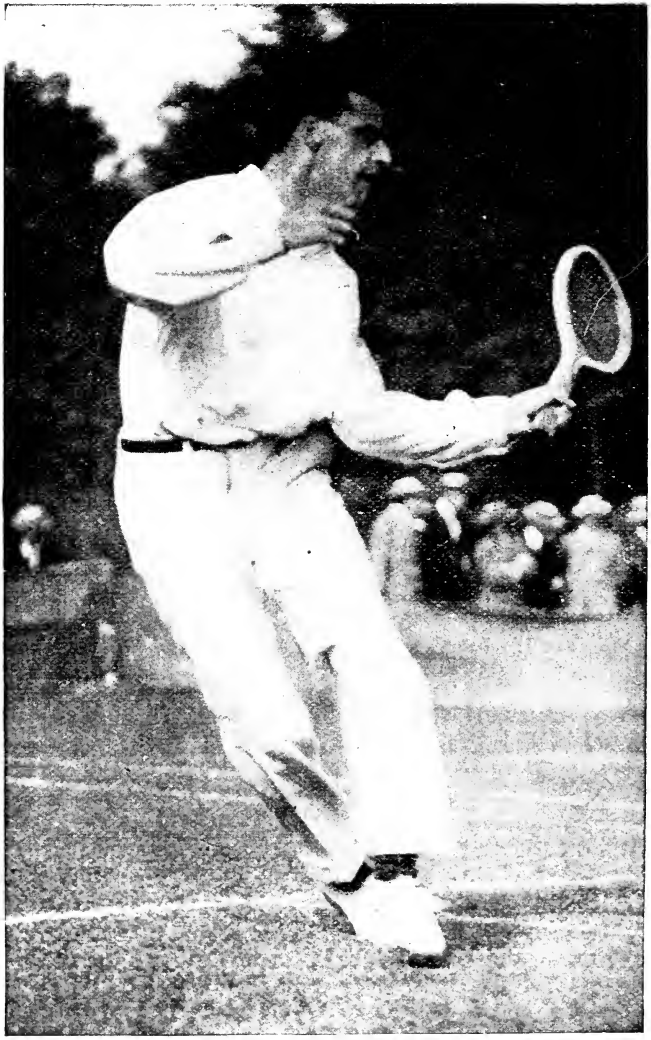
The season of 1899 was Whitman's most remarkable one, for he not only did not lose a single match, but was not once forced close in tournament play. With unbroken success he defended all of the many challenge cups he had won the previous year, and when he came to defend his championship title he was considered invincible.

The season of 1900 was made notable by the first officially recognized international matches in the sport. Through the generosity of D. F. Davis, an International Challenge Cup was offered and a challenging team was sent to America to try for the new trophy. This was composed of A. W. Gore, E. D. Black and H. R. Barrett, Black being a Scotchman and the other two English. The international matches took place at Longwood, Mass., the first week in August. The American team won the first three matches played, giving them the victory before the last two matches of the series were finished.

Two of the foreigners, Gore and Black, were also entered for the championship event at Newport, but made a poor showing there. W. A. Larned had an easy road to the finals, winning the all-comers' and challenging Champion Whitman. Again the champion proved invincible and although Larned's brilliancy carried off the second set in fine style, his spasmodic attack finally broke down before Whitman's wonderful defence and the champion retained his honors without great difficulty.

This, his third successive victory, gave him possession of the fourth American championship challenge cup, its predecessors having been captured by Sears, Campbell and Wrenn.

The following year, 1901, witnessed Larned's triumph in taking the championship, for which he had played many years. He came through the tournament, meeting Beals C. Wright in the final, and then upon the default of Champion Whitman, the first holding of the newly offered cup went to Larned. In the same tournament, Holcombe Ward and Dwight F. Davis won the doubles honors for the third consecutive year and became



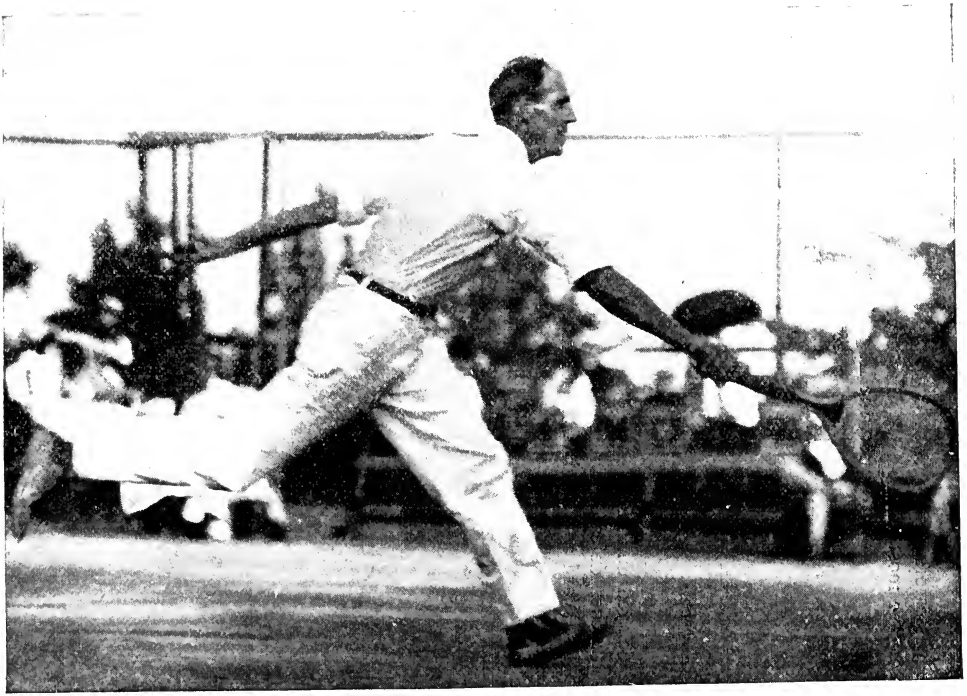
BEALS C. WRIGHT.

the possessors of the twin cups presented by Col. John Jacob Astor, the most valuable trophies ever offered in the sport.

After the lapse of a year, the English again tried for the Davis International Cup, in 1902, the team being composed of the most famous exponents of the game in England, Reginald F. Doherty and Hugh Lawrence Doherty, while the third player of the team was Dr. Joshua Pim. The matches were played on the courts of the Crescent Athletic Club, at Bay Ridge, N. Y., the Americans successfully defending the trophy by winning three of the five matches. In the singles, Larned lost to R. F. Doherty, after having him two-love on sets, when the contest was stopped and delayed until the next day by a thunderstorm. Whitman in his matches defeated Dr. Pim and R. F. Doherty, while in the doubles, Ward and Davis were defeated by the Doherty brothers. This last contest was witnessed by thirteen thousand spectators, the largest number ever assembled about a tennis court in the world. In the national championships at Newport, R. F. Doherty came through the tournament a winner, defeating Whitman in the final, but being unable to win the title from Larned.

The season of 1903 proved a disastrous one for the Americans, and the Britons made a complete sweep of the courts. Playing both the singles and doubles alone, although H. S. Mahony accompanied them, the Doherty brothers won the International Cup on the courts at Longwood, Boston, by four matches out of five. The American win was a default to Larned by R. F. Doherty after he had injured his shoulder. Robert D. Wrenn, playing in the singles with Larned, was defeated, and paired with his brother, George L. Wrenn, Jr., they went down rather easily before the British pair. As the Dohertys had won the Eastern doubles the year previous and the national championship in that event, they defended that honor successfully and also took the singles by the defeat of Larned by H. L. Doherty, who won the tournament after meeting W. J. Clothier in the final.

No American challenge for the lost cup was made in 1904. The championship in singles went to Holcombe Ward by the default of H. L. Doherty, after Ward had defeated Clothier in



NAT EMERSON,
Western Championship Winner and Semi-Finalist in National Tournament, 1908.

the final of the tournament. A new pair also came to the front in doubles, as Ward paired with Beals C. Wright, and gained the title by the defeat of Kriegh Collins and Raymond D. Little, the Western champions, in the East vs. West match.

The first American challenge for the lost cup was made in 1905, and the team sent in quest of it was composed of Ward, Larned, Wright and Clothier. The Americans failed to win a single match of the challenge round against the Dohertys and Frank L. Riseley, although they won their way to the privilege of becoming challengers by in turn defeated Belgium, France, and Australasia. Austria was also represented, being defeated by Australasia.

In 1906 America tried again for the international trophy, sending Beals Wright, Kriegh Collins, Raymond Little and Holcombe Ward. As far as the chances of the American team were concerned, the contests were decided before the team left America by the accident that befell Beals C. Wright at the Crescent Athletic Club, Brooklyn, N. Y., and the lack of form that Kriegh Collins displayed. The Dohertys again were triumphant.

In 1907 Beals C. Wright and Karl Behr journeyed to Great Britain, in an effort to regain the Davis trophy, but were unsuccessful, being defeated by the Australian team—Brookes and Wilding—the Doherty brothers not contesting.

The cup having gone to Australia, a journey to the Antipodes was necessary in the effort to restore the trophy to its own country, and accordingly a team composed of Beals C. Wright of Boston and Frederick B. Alexander of New York set out in September, 1908, for Melbourne. The pair put up a great battle against Brookes and Wilding, but the latter finally prevailed.

MISS MAY SUTTON,
Winner of the Pacific Coast Championship, and the World's Champion.

## A First Lesson for Beginners.

To begin right is half the game in lawn tennis, and if one wants to learn to play the game well, it is important to begin correctly. Some of the simplest matters are the most important, and if these are mastered at the start the improvement in skill will follow quickly after, and the development be gradual but rapid. To accumulate bad habits of play when first learning the game is only to handicap a beginner indefinitely, for it is much harder to give up bad habits and alter the style in these small matters than to begin all over again and learn anew. Some of the most important of these minor details are the smallest and the most likely to be overlooked. They are not child's play, by any means, and should not be ignored because they seem simple. Even the best experts had to learn them first and must observe them as well as the beginner.

First and most important of all, the racket should be firmly gripped in making all of the strokes. A loose grasp ruins otherwise good play, and no habit interferes with progress more than that of holding the handle loosely. The slightest relaxation in the grasp will often let the racket turn in the hand while making a stroke, and it is failure in consequence. It should be held by the extreme end always, the "butt" or leather binding at the end resting against the ball of the hand.

For all forehand strokes, or those made when the ball is on the right side of the body, the hand should rest diagonally along the handle, with the first finger separated from the others and extended an inch or two further along the racket, but also wrapped around it; it should never rest its full length along the handle, as we sometimes see beginners doing. The finger nails when at rest on the handle, should face at the moment the ball is hit in the direction in which it is to fly.

For backhand strokes, those made when the ball is on the left

side and the arm and racket must be drawn across in front of the body, the fingers should be closed together and the thumb extended out straight along the handle behind the racket, in order to give more force and better direction to the ball. In backhand play, the second or middle knuckles should face when the racket meets it in the direction in which the ball is to be driven.

In changing the grip after one stroke for another on the opposite side, it is necessary to shift the grip somewhat, but this is easily accomplished as the racket is carried across in front of the body. It is the custom of almost all good players to balance the racket between strokes in front of the body, with the upper part of the handle at the "splice," as the fork where the wood of the handle spreads out into the frame is called, resting lightly in the left hand.

After every stroke it is well to return the racket to this position, and the shift in the grip between strokes will never be found difficult if this is done. In the heat of the play, the effort of shifting the hold becomes almost unconscious and does not distract attention from the strokes themselves Nearly all experts condemn as bad form the habit of playing both forehand and backhand strokes with the same grip.

In actually making the stroke, the racket should start as far behind the point which the ball is to be hit as possible, and swing as far beyond it after the blow as the full reach will permit. In forehand strokes, the full length of the arm should be extended behind the body to start the swing with plenty of impetus and the stroke should be finished well up over the left shoulder, the racket even turning in the wrist and dropping down back of the head to stop its impetus.

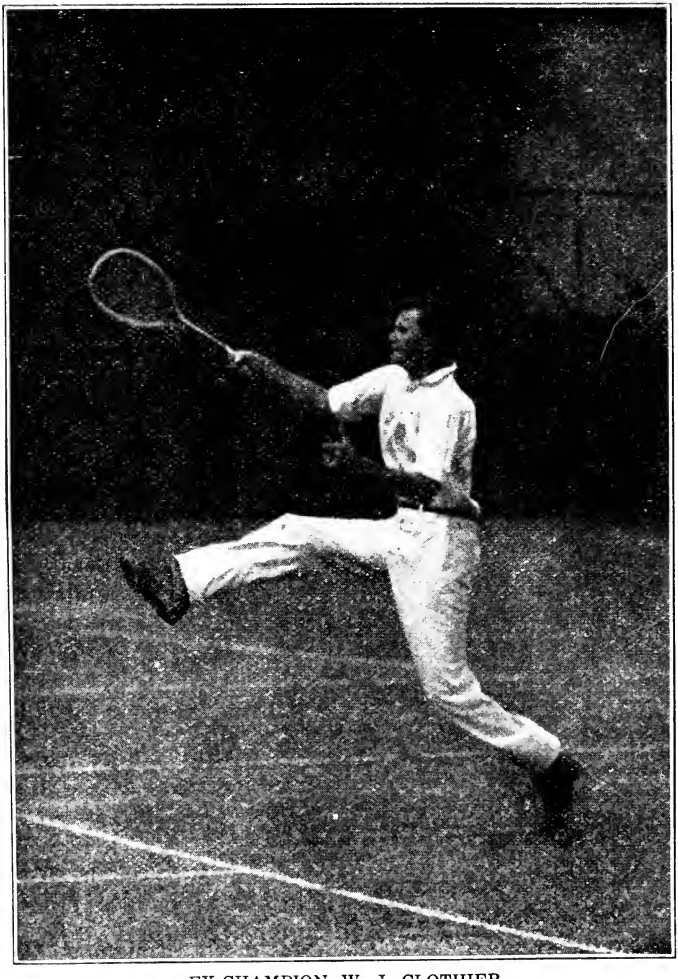
The swing for backhand stroke should be almost exactly the reverse, the racket starting over the left shoulder and ending at the extreme length of the arm extend out beyond. The body, however, should be turned around in exactly the opposite direction, so as to face the ball for each stroke, and the position of the feet should be shifted so as to give the firmest balance and the freest motion of the body. The feet should be spread well apart and the body bent forward at the hips just before the ball

is struck, so that its weight is added to the impulse of the racket in making the stroke.

As in golf, the weight of the body is carried on the rear leg and foot before the stroke, and as the racket swings toward the ball, it is thrown forward, shifting to the other, so the added force of the body greatly increases the power of the stroke. A long swinging sweep of the arm and racket should be cultivated so as to meet the ball squarely and with a powerful impact as it comes toward you.

All side motion of the recket is lost power; as in golf, the head of the racket and the wrist that guides it should travel as nearly as possible in the direction the ball is to go just before the stroke, while actually hitting the ball and as long as possible after the impact. The "follow through" is nearly the same in tennis as in golf and quite as important. Greater freedom in swinging the weight of the body while making the stroke is possible in tennis, for the left arm is free to help recover the balance, while in golf both are required in holding the club. A tennis stroke is made while the body is in motion, too, instead of being still, as in golf, so the weight is carried still further forward and checked by bringing the rear foot o utin front of other. In making a fast tennis stroke forehanded, the weight starts on the right foot, shifts to the left as the ball is hit, and is finally checked again on the right, which takes a step forward to recover the balance just after making the stroke.

In making lawn tennis strokes, it is vitally important to keep away from the ball. One of the most common errors among beginners—even with some experienced players—is that of getting too close to the ball while playing. The cramped elbow that results from this ruins many more strokes than ever spoiled by being too far away from the ball. A splendid maxim laid down by an expert player is that every player should *go to* the ball in making a stroke, and never let the ball *come to* him. Even when one finds himself in the right position to take the ball, it is better to step back as it approaches and then forward again to meet it, for this insures the correct position, with better speed and direction with the weight moving forward when the stroke is



EX-CHAMPION W. J. CLOTHIER.

made. If the flight or bound of the ball is a little further than calculated, the player will still be in the right position and not too close. In every stroke of the game, the position should be that of meeting the ball; no fast stroke can be made while moving backward or even with the weight thrown backward.

The actual position of the racket in the hand while the stroke is being made is very important. In the preliminary swing and in hitting the ball, the head of the racket should be nearly level with the wrist, and the end of the swing should finish with the racket well above the wrist. This requires an upward motion of the racket's head as well as the forearm, and it is this motion that lifts the ball over the net, while turning of the wrist to one side or the other directs it to the right or left.

As the racket meets the ball, its head should be drawn slightly upward so that the strings are dragged across the face of the ball as they hit it, and this slight side motion gives the ball a twist that keeps it from "sailing," and makes it drop soon after crossing the net. In some of the "lift" strokes or "drop" strokes played by experts, like the famous "Lawford" stroke, for instance, this drop is much exaggerated, and the ball describes a rainbow arch in its flight, dropping suddenly after crossing the net. Much power is wasted in such strokes, but a little twist is generally necessary to hit the ball hard and still make it fall inside of the court-lines.

The height at which the ball should be taken depends on the height of its bound, which in turn depends on the hardness of the court. On most grass courts, the bound in fast play reaches about to the knee, and this is the best height at which to hit the the ball. Even on harder courts, of "dirt," sand or boards, it is better to let the ball drop to this height before hitting it, although the longer bound keeps the player further back in his court, which is not often desirable. Sometimes, it is necessary to hit the ball at the level with the hip to prevent being driven too far from the net, but no stroke should ever be made underhand with the ball higher than the hip.

The eyes should be kept on the ball all of the time as it approaches; even up to the time of hitting it, one should watch

LARNED'S BACKHAND STROKE.

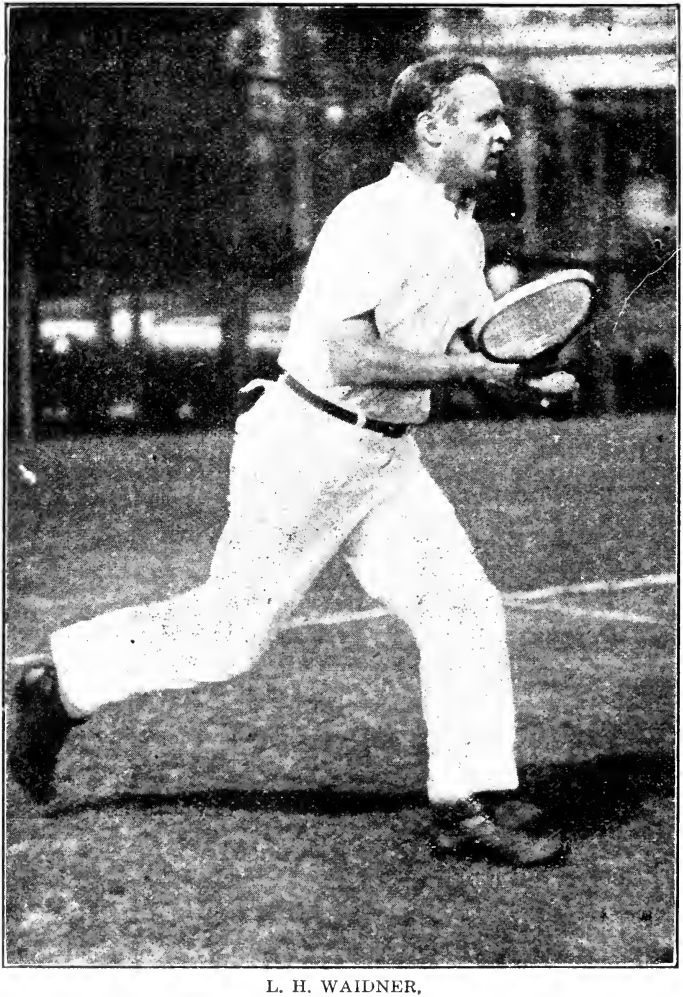
the ball, not the racket or the opposing player. It is sometimes necessary to look up for a second to see the direction in which it is to be placed and where the opponent is, but this should be done before the stroke begins, not while it is being made. A player often reads his opponent's intention from the direction in which he is looking, and if one looks where he plans to place the ball, he may betray his thoughts and the opponent anticipate the stroke by going directly to the spot.

Perhaps the best way for one who wants to play tennis well, is to practice strokes against a blank wall—high fence, the side of a house, or some obstacle of that kind—batting the ball up against it again and again, hitting it from the bound each time it returns. Nothing can possibly afford better practice than this kind of play. Experts use it constantly in the spring, and find it a better way of getting into form, of "getting their eye on the ball," as they say, than even regular practice on a regular court. The ball always comes back at the corresponding angle to that at which it struck the wall, and with much greater regularity than any human opponent could return it.

In all forms of practice, whether against a wall or an antagonist, the method of making the strokes should be kept in mind all of the time. Every stroke made in bad form is just so much wasted practice, and if a faulty style is contracted, the longer it is allowed to continue without correction, the more dangerous it becomes. Bad form in lawn tennis is as difficult to overcome as bad habits in anything else. Some of the simplest and least offensive of mannerisms, too, often develop into injurious habits if not checked at once.

Holding the racket loosely in the hand, swinging it or twisting it sidewise before making a stroke, jumping a little just before the stroke instead of while it is being made, taking the eyes off the ball, and even momentary lapses of indifference while playing are all dangerous habits to contract, and each will develop into a bad fault if not checked at once.

The questions of placing the ball and of covering court so as to prevent the opponent from out-placing you are very important, and both permit unlimited study; in fact, the cleverest of



L. H. WAIDNER,
Chicago.
In the Western Championship Tournament.

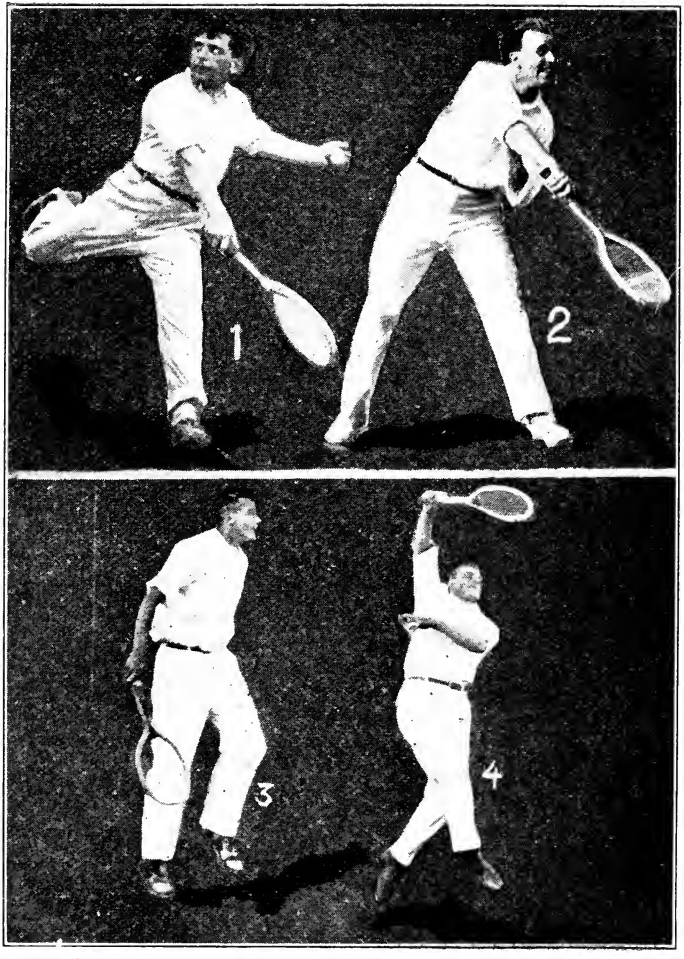
tournament players never stop working on these problems. After every stroke from one side of the court or the other, one should immediately hurry back to the centre of the base-line, so as to be ready to start for the next ball, no matter where it is placed. If she is caught too far away from the centre, the opponent will surely win the stroke by placing the ball to the other side of the court and out of her reach.

Not long ago I discovered an expert tournament player repeatedly stood still after making a stroke from one side of the court, and waited to see the result of his play, instead of hurrying back to the centre of the base-line in anticipation of his opponent's next stroke. By this error, he constantly left his court open at the opposite side for a well-placed ball that would win the point.

When badly pressed for time or too far out to one side of the court to get back again, a lob is always useful, and it gives a player plenty of time to get back into position for the next play. Beginners should all learn to lob well, as this is an invaluable stroke and can always be resorted to for a defense.

An overhand service is practically necessary for those who want to play the game well, although some players learn to serve underhand with such a sharp twist that it is difficult to make a hard return from the low erratic bound. The ball should be thrown up in the air as straight as possible over the right shoulder for the overhand service, and hit just as it pauses in the air before falling. To throw it much higher and hit it as it falls is much more difficult and less effective.

An overhand service should be made as fast as the player can control the ball within the boundaries of the proper court. The second service, too, after a first fault has been served, should be made in the same way but slower. To serve in a different way only tends to upset the accuracy of the first service as well as the second and weakens both.




1, H. J. Mollenhauer; 2, Prof. L. Perry; 3, F. DeRham; 4, C. C. Pell.

# How to Make the Most Important Strokes.

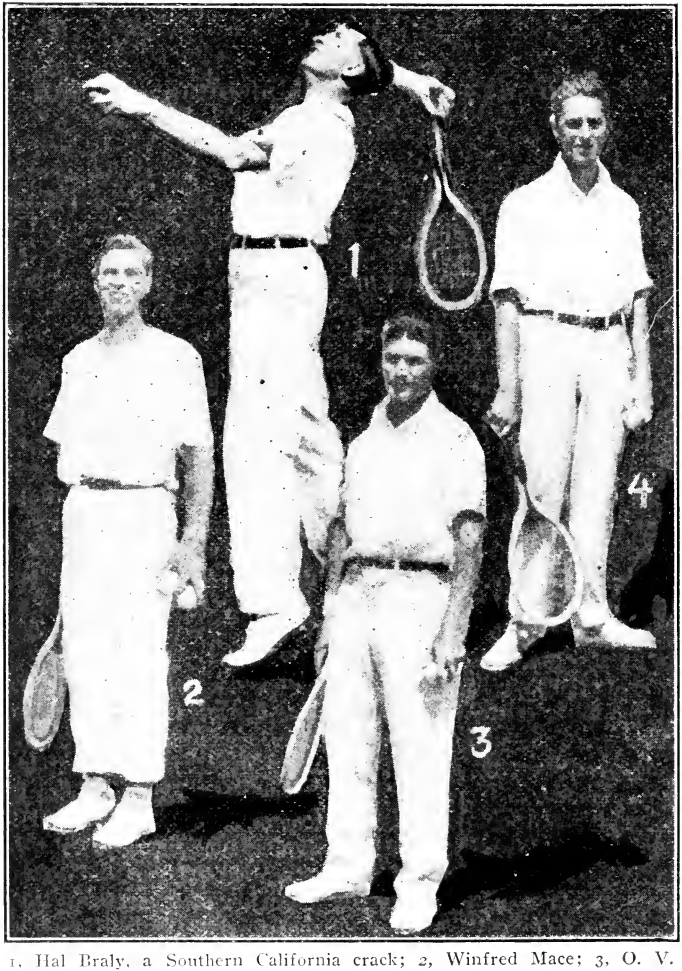
## I.—The Service.

Having first mastered the rudiments of the game, one is soon led on to the more intricate points of play. In hitting the ball, there are very many variations possible, of course, but the whole list of strokes can be divided safely into four classes: (1) The service, (2) horizontal ground strokes, (3) the volley and the half-volley, and (4) the lob. Let us consider the service first, as it is the opening stroke in every play.

The service is restricted by the rules of the game more closely than any other play, and it is well that it is so, for there have been many attempts to take advantage of the attack given to the server by his being allowed to make the first stroke of each series. The service rule (No. 6) has had to be changed repeatedly to keep the server from infringing on the rights of his opponent. In the modern game it is considered a great advantage to get up the net to volley as soon as possible after the service has been delivered, and the American experts a few years ago carried this plan of attack so far that they served on the run, and a new rule (that which is at present in force) had to be adopted to stop their onslaught.

It has always been the intention of the rules to make the server stand at the base-line when he delivered his service, and the wording has been changed only to define this position more closely, so that he shall remain there until after the ball has been delivered. Otherwise, he is allowed to hit the ball as he pleases, and it is a good service if the ball drops in the service-court diagonally opposite him, and does not touch the net in crossing. Naturally, the faster the service the more difficult it is to return, and all efforts have been directed toward getting greater speed in the delivery without forcing the ball to strike out of the required court.

There used to be many methods of underhand twist services




1, Hal Braly, a Southern California crack; 2, Winfred Mace; 3, O. V. Vernon; 4, Drummond Jones.

used, much like those of rackets and courts tennis, and it was intended to make the ball bound up from the ground at an erratic angle that would make it more difficult for the opponent to return. These twist services passed out of use, however, when faster return strokes and harder drives came into use and have been only occasionally revived for special uses, sometimes against women in mixed doubles, or occasionally against a player who finds it difficult to hit the heavily cut ball. It is also occasionally useful to serve an underhand twist ball when the sun shines brightly in the server's face, and makes it difficult to look up for an overhand service. The American twist service is a newer and more scientific development of these old-fashioned twist deliveries, but the ball is served overhand and very fast. A special chapter has been devoted to this one play.

The most useful and commonest service used by good players is an overhand delivery almost straight with a slight cut to the right that keeps the ball from "sailing" in the air. A ball always travels faster and truer if it turns on its own axis, and this same principle which is used in "rifling" guns is brought into use in serving a tennis ball. The player should reach as high as possible, even serving up on the right toe, and strike the ball at the extreme length of this racket. The server should reach up a little above the ball, too, so that the pressure of the racket shall be slightly on top as well as on the right side of the ball. This top twist helps to bring the ball down into the court, when sometimes it might otherwise go out and be a fault.

This overhand cut service curves slightly to the (server's) left, and its tendency is to draw the opponent out slightly in that direction in order to return it. If a player can combine this service with a "reverse" service, which is made by drawing the racket across the ball in the opposite direction, from left to right, he can fool the adversary wonderfully by varying the two, and keep him guessing almost constantly. This gives the server a big advantage, for the opponent is unable to anticipate his delivery and finds it more difficult to make a strong return.

It is important to have a strong second service, and too many

players neglect this feature of their play, serving so slowly and "softly" in their anxiety to be certain to avoid the double fault, that their second service is very easy to kill. The second service should be as nearly like the first as possible, only moderated enough to be certain of not missing making a double fault. I know a number of good tournament players whose game shows the woeful weakness of a second service that can be killed often by a fast drive from the slow high bound. It is doubly important that the second service should be as long as possible, that is, following as near the service-line as possible; and that it should not bound high so as to offer a tempting mark to drive at.

Many players try for exceptional speed with their first service, when they know that the chances are heavily against their making the stroke count. The result is that the second service, when they miss, is so much softer than the first that it is easy to kill. It is better to make the first a little slower and be more sure of bringing it in, and then to make the second more nearly like the first if the latter should be a fault.

If the server plans to run in on his service and to volley the opponent's first return, there are other considerations than mere speed and twist to consider in making the service. Direction and placing are even more important than either speed or bound, for the ball must be carefully placed to make the server's position safe at the net. It is generally the safest in running in, to serve to the centre of the court, for it is always more difficult for the opponent to pass a volleyer at the net from the centre of the court than from either edge, where the side-line is always open.

If the opponent is particularly weak on his backhand, or if he stands well over toward the centre of the court to anticipate a delivery to this point, it is well to vary the direction of the service to the extreme edge of the right-hand court. This will often force him out of court to make the return, and its unexpected direction will make it more difficult for him to handle the ball well.

## II.—The Ground-Stroke.

At least three-quarters of the game is made up of ground-strokes, and upon a player's skill in this department of the game depends much of his success. It is impossible to play the game well without good ground-strokes, and very few men have ever succeeded with only volleying to back them up. To win a rally by volleying at the net requires, first, good ground-strokes to make the opening when the volleyer will be safe at the net. To be sure, there is only one stroke in each rally that is required by law to be played off the ground—the return of the service—but few men are able to volley so well that they can reach the net safely after every service and first return, and it is practically necessary to earn the position for a smash or volleyed ace by good ground-strokes that lead up to the winning position.

The straight horizontal drive is the most useful of all the ground-strokes, and this can be made either forehand or backhand. It needs a full, long swing, a clean-hit ball and as much body swing and "carry through," as the golfers call it, as it is possible to get in the stroke. The ball is best taken at about the height of the knee, and a little "lift" put on it at the end of the stroke. Many players have a habit of striking the ball much higher than the knee, often higher than the waist, but this not only makes the stroke more difficult to execute, but it also increases the chances of putting it into the net. In making this stroke, I want to emphasize once more, however, the importance of getting the weight of the body into the stroke and of throwing it forward so that the weight follows the racket as long as possible.

Most beginners in lawn tennis have a tendency to push the ball rather than to hit it, and the effect is to ruin what might otherwise be a good stroke. The impact against the ball should be clean-cut and sharp, but the racket should follow the ball until it is well started on its course.

The drop stroke, often erroneously called the "Lawford" stroke, is an exaggeration of this side-strike that has become

very commonly used; in fact, more often seen than the true stroke. In making this, the racket meets the ball with a diagonal sweep, striking it a glancing blow with a sharp up-twist that drags the ball along with it and gives it a sharp spinning motion, like a "follow" shot in billiards. By some tennis players this is so much exaggerated that the ball describes a sharp, rainbow-like course as it crosses the net and dips quickly after crossing, so that many balls that seem to be going out of court ultimately fall inside the boundaries.

This stroke is very useful for passing an opponent at the net, for it is doubly difficult to volley a falling ball like this sends, but against an opponent at the back of his court, it takes unnecessary risks without proportionate gain, for it accomplishes no more, save, possibly, a little greater speed than the straight side-stroke.

The chop-stroke is another method of striking the ball after it has bounded which has found a great many devotees. The ball is hit with a downward chopping motion like that made by a woodsman swinging an axe. The head of the racket is bevelled and meets the ball at a sharp angle, striking a glancing blow that gives the ball a sharp back-spinning motion, opposite to that given by the drop or lift stroke, and like the spin of a billiard ball after it has been played for a draw-shot.

This stroke is a corruption of the English method of striking under the ball rather than over it, as so many Americans do, and it has been exaggerated until some players "chop" nearly every ball they play. The tendency of this stroke is to keep the ball up, rather than make it drop into court, and unless it is played slow or from well above the net, it often sails out of court. The player has a little better command of the ball, perhaps, but less speed than with the straight side-stroke.

In backhand play, the straight side stroke is the most useful of all but more difficult than the chop-stroke. The drop-stroke is very difficult to play on the back-hand side and few players ever use it except on the forehand, while the cut or chop stroke is the easiest and most often used on the back-hand. The Eng-

lish players use it a good deal, cutting much more in their backhand play than on the other side of the body.

The chop-stroke is the most difficult of all to handle at the back of the court, because of the twisting ball and low bound, but it is very easy indeed to volley if an opponent plays it when one is waiting at the net. The straight side-stroke is the best of all for driving against a base-line player and the drop-stroke for passing. It is difficult, however, to combine both, and few players have succeeded in doing so. A man must choose one or the other to gain success and stand or fall by that. It takes a wonderful amount of practice to perfect either stroke and if one divides his time and attention between two different styles, he is likely to imitate the "Jack of all trades, master of none."

In receiving the service, the ground-stroke must be used always, and it depends upon the style of the opponent which is the best play to use against him. If the server runs in to the net to volley after each service, a side-line passing drive or a short cross-court stroke will generally prove the best answer to his attack. Such a return makes the ball drop so soon after crossing the net that it is very difficult for him to volley the stroke, and even if he does succeed, he generally hits the ball below the level of the net and his volley becomes less dangerous because he must lift the ball up again somewhat in order to keep it from going into the net. If he volleys too well to pass, then a lob must be resorted to.

If the opponent is a base-line player and does not run in at once to volley, the drop-stroke is not so useful for attacking or opening upon an attack for a winning volley at the net, as either the chop-stroke or the straight side-stroke. It adds to the chance of error without increasing the force of the attack. The drop-stroke spins out a good deal after it has struck the ground and loses much of its speed when it rises the second time for the opponent to return, while the chop-stroke "shoots" faster than ever from the ground and the straight side-stroke holds most of its place after bounding.

The question of length is of utmost importance in making good ground-strokes, and for this purpose the straight side-stroke is the most powerful of all ground-strokes. Both the chop-stroke and the drop-stroke depend on their twist to keep them within the boundaries of the court, while the side-stroke is aimed for the spot it is intended to strike. In using the drop-stroke, the player aims many feet beyond where he expects the ball to fall, and depends upon the drop to bring it into the court, while with the chop-stroke, it is just the reverse, for the player has to aim the ball many feet short of the base-line in order to bring it inside of the line, as the under-twist makes the ball "sail" somewhat.

For all-round uses, therefore, the straight side-stroke is the most useful, but it does not follow that no cut should ever be used with it. On the contrary, it is possible to use a little of either cut with this stroke, and thus get part of the effect of either of the other two strokes, while with either of the exaggerated styles, the other is almost impossible to acquire. Many players who have mastered the straight side-stroke, and who follow through after the ball the longest in making it, vary its use a good deal by twisting the ball slightly according to the position of the opponent.

Against a man at the net, they finish the stroke with the racket drawn somewhat up toward the left shoulder, and this gives the ball a top twist that makes it drop slightly after crossing the net, although not nearly so much as with the regular drop-stroke. When the opponent is at the base-line, a little under twist keeps the ball from bounding high and makes it shoot so from the bound that it will be forced further away and find it more difficult than ever to make a safe return. With this straight side-stroke, the player has the best control of the ball that can be secured, and if he follows it well with his racket in hitting it, he can direct the ball very closely to where he wants it to go.

## III.—The Volley and Half-Volley.

The most thoroughly American stroke of all those which are used in lawn tennis is the volley, and much of its modern development is due to American methods. Our players volley with much more aggressiveness than the Englishmen and their attack is much stronger and more effective in consequence. A great part of the volleying abroad is underhand, the ball being struck from below the level of the net and must be lifted back over its top again before it can seek a vulnerable point of the adversary's court. This naturally lessens its power of attack and makes it more of a defensive stroke.

Americans, on the other hand, rush in much closer to the net and volley sharper and faster, hitting the ball at the top of its flight and driving it downward with a sharp stroke. They smash much more, too, than their English cousins and seldom fail to take advantage of an opening for a killing stroke, when the foreigners often satisfy themselves by keeping the ball in play with underhand volleys that do not kill.

My advice to any young player who wants to learn to volley underhand is—don't do it at all. At best it is a defensive stroke, and a volley should never be allowed to be defensive. If driven back from the net so far that it is impossible to reach the ball before it has fallen so low as to make an underhand volley necessary, it is much preferable for the player to fall back still further and make a ground-stroke instead of a low volley. The position is stronger and stroke is likely to be much better.

Horizontal volleying is the most important of all, and upon his skill at that depends a large part of a player's success at net play. Once safely ensconced at the net, all fast returns offer horizontal volleys and only the lobbed balls give openings for overhead volleying or smashing. The most important point in horizontal volleying is to hold the wrist very stiff and to meet the ball with a rigid racket that does not give at all from the impact. One should never volley upward either; it is better to strike a little downward and if the ball is too close to the net to direct it downward at once, the face of the racket can be

bevelled slightly upward to keep the ball from going into the net.

The racket should be drawn back eighteen inches or two feet as the ball comes toward you, and then brought forward with a quick, determined stroke that meets the ball with a sharp blow and follows it as far as possible. To merely stop a ball without striking it, or even after striking it, to relax the grip of the racket so that it gives when the ball meets it, means to rob the volley of all its life and snap, and to make a weak return of the stroke. Except for the tricky "stop-volley" which is rapidly coming into use for grass court play against a base-line player, the ball should always be hit firmly and sharply and the direction controlled by turning the wrist in one direction or another at the last second before striking the ball.

These stop-volleys are made by close net players by holding the racket rather loosely and merely stopping a fast drive at the net and allowing the ball to fall just over into the opposite court and drop there lifeless with little or no bound. If the opponent is far back in his court and not expecting this play, he is seldom able to get up to the net in time to reach the ball before it bounds the second time. It is possible to bring off these stop-volleys successfully, however, only when the volleyer is very close to the net, so close in fact that he is in danger of having the ball lobbed over his head. The correct play against a volleyer who gets in so close as this is always to lob over his head, for he is seldom able to back away in time to volley the ball, and generally has to let it bound and return it with another lob.

Overhead volleying or smashing is much like serving. The player should reach as high as possible over his head and strike the ball from over his right shoulder with as much force as possible. In smashing, the weight should be thrown far forward and the additional impetus of the body's swing added to the force of the blow. The object of a smash is to kill a dropping ball by the sheer speed of the blow, rather than the accuracy of its placing, but many well-smashed balls are returned by the opponent, and the player should not lose his balance entirely, for then he

will not be ready for the next stroke in case his antagonist should return his first smash.

It is never safe to risk a smash if behind the service-line, and a ball that is going to fall further back than that should be volleyed rather than smashed. Smashing is very much overdone anyway. It is quite unnecessary to smash many short lobs that come to a player during the course of a game, for an ordinarily fast overhead volley to some remote part of the court where it is well out of the reach of the opponent is quite as effective as a smash, and reduces materially the chance of error without weakening the chances of winning the ace. When a volley will kill the ball, a player should never risk a smash or waste his strength on the play either.

Half-volleying is only a makeshift at best to cover up a mistake in position. A player should never half-volley if it is possible to make any other stroke. He should go back and play off the ground, or run forward to meet the ball and volley the return. Some of the English players half-volley aggressively from choice, even when it is possible for them to avoid the stroke, but this play has been fostered and practiced because of the volleying position of the Englishmen, many feet further from the net than that which the Americans prefer. The consequence is that many balls drop at their feet when they are in their customary position for volleying, at the service-line, and they get used to half-volleying instead of shifting position to get the ball either on the volley or after it has risen well from the ground.

## IV.—The Lob.

The lob is a stroke that used to be considered only useful for defence, but modern American methods have brought it into common play both for attack and defence, and it has now become recognized as a general stroke of the game. Primarily, it is used either to get the ball out of the reach of an opponent at the net waiting to volley it, or to save time by knocking the ball high into the air while you get back into position or recover your "wind," if out of breath.

Some players find it difficult to kill a lobbed ball, and in a tournament match the ability to lob well may prove of great advantage against an antagonist. If hard pressed, it also furnishes a breathing spell that may be just enough to save the set. The ball should be played high into the air and well back, in the opponent's court. The lob short is sure death, and one had better not lob at all than to lob short of the service-line. The ball should be hit with confidence and with force behind it, not hesitatingly, as though the player were afraid the stroke would be a failure. This uncertain way of lobbing is the most dangerous of all.

Of recent years, however, still another use has come into play for the lob, and this is the result of the American habit of getting in close to the net to volley. Once the opponent gets in closer than the usual net position, when less than ten feet from the net, the overhead attack can be started by lobbing, and he can quickly be driven away from his advantageous position. A low lob, just out of his reach, sometimes scores a clean ace, and even a high one will often force him to turn and run back in his court to return the ball.

A young player should always practice lobbing enough to be certain of the play. It is always useful and one can never tell when he will have to bring the stroke into use. Nothing is more demoralizing, too, than to lob short and have the ball killed so hard that you have not a chance to reach it. Before an important match, it is a good plan to practice lobbing for some time, and the question of length should be watched closely, for a good lob should always fall between the service-line and the base-line—better yet, within ten feet of the base-line.

I have often spent an hour with a patient friend on the other side of the net, practicing just this one stroke, and the result justified all my hard work, for it gave me command of a play that served me in good stead whenever I got into any kind of difficulties. It is the most perfect defence that can be found and against any but a very strong smasher, it often becomes a strong attack.

## The American Twist Service

There has been a good deal of mystery surrounding the American twist services which have recently become so prominent in the international matches. As a matter of fact, there should be no mystery at all in regard to this play, as it is simply a scientific development of the common underhand twist strokes adapted for overhead play with the additional speed which has made the new stroke so formidable. It is a common error to call these deliveries "reverse twists," for, as a matter of fact, the only reverse twist overhead service in use among the experts is that delivered by Champion Whitman, while the twist service used by Davis, Ward and Alexander have all the natural out twist. As Davis is a left-handed player, his service "breaks" from the ground in the opposite direction from those deliveries by right-handed players.

Ever since the early days of baseball the scientific theory of curving a ball in the air has been well understood. The top of a carriage wheel travels faster than the bottom, because its axis is moving ahead all of the time, and in the same way the friction on the side of a ball which is twisting on its own axis is greater on the side which is going fastest through the air—the right-hand side in a right-twist delivery and vice versa. The rougher the surface of any spherical body the more it will curve in the air, because the friction becomes greater against the particles of the air itself. The rough felt covering of a lawn tennis ball causes more friction than a leather-covered baseball and consequently the tennis ball curves more in the air.

The secret of success in making this new twist service is not to make the ball curve so much to one side or the other as to curve downward in its flight, like the "drop" of a modern baseball pitcher. It is necessary to make a tennis ball drop quickly after crossing the net if it is to be served with much speed and

still strike within the boundary of the service court. To accomplish this the ball must be hit on top as much as possible, and the secret of the new twist service lies in reaching *over* the ball and striking it from above as well as one side. The racket strings are drawn across the cover of the ball as much as possible, the ball taking the strings near one edge of the frame and leaving at the other side. To do this a very quick side motion is required, and it is this that gives the ball its rapid spinning motion.

It has been a mystery to many why a tennis ball should bound in the opposite direction from its curve, but if one will apply the principle of the "English" in billiards he will understand at once the reason. In the overhand out twist, as served by Ward and Alexander, the ball spins sharply on its own axis, combining the effect of right-hand English and the "follow" shot in billiards—in other words, it spins exactly like a billiard ball when hit for a follow shot with right English. It curves to the (server's) left in seeking the line of the least resistance (which is a common rule in all physics) because of the greater friction on its right side, and it curves downward in its flight because of the greater friction on its top side.

Instantly the ball strikes the ground it breaks to the right because the spinning motion drags it that way when it comes in contact with the ground, just the same as a billiard ball with right English will rebound to the right when it strikes the cushion of the table. Thus we have the double motion in this new twist service, which has puzzled so many who have played against it. The reason why its effect has been greater with American than with English balls is because the surface covering of the American ball is rougher than that of the English, and the resistance in going through the air becomes greater in consequence. The ball gets a sharper twist from the racket because the rougher cover makes it cling longer to the string.

The service used by Whitman has the reverse twist, his racket removes from (his) right to his left, the ball curves from left to right, and breaks again to the left as it leaves the ground. Davis's service has the same curves and the same effect as Whitman's, but Davis reaches very much further over the ball, hitting

it faster and making it bound deeper. It is an out twist and not a reverse twist, however, because Davis plays with his left hand and the racket travels away from his body, not across it. The service used by Ward and Alexander is an out twist made with the right arm, the racket traveling away from the body to the (server's) right; the ball curves from right to left, and breaks sharply to the right again after leaving the ground.

In Whitman's case the racket travels across in front of his body and the tendency in making this reverse twist is to throw the server off his balance, and to make it doubly difficult for him to run in to the net to volley the first return. In the case of the out twist, it is just the reverse, and Ward is said to have invented this service in an effort to get the impetus of the racket to help him get in motion quicker after serving in his hurry to reach the net for the volleying position.

In each case where this out twist service has been successful the server bends very far backward and drops his racket down far behind his back before making the stroke. In each case, too, he reaches well up over the ball, and the more he hits it on top, the more speed he can secure and still make the ball drop enough to fall inside of the service court. There is a tendency also to ease up slightly on the inside edge of the racket so that the strings will follow the ball longer and give it a sharper twist in making the stroke.

This new American twist service is physically very severe on its users, and tires the muscles of the back and stomach more than those of the arms, because of the sharp bending backward as the stroke is made. There is no secret about it, however, and the fact that Alexander has successfully learned to use it simply through watching Ward make the service and practising it steadily is proof that any other player can learn this stroke who will give enough time and conscientious effort to learn it. The keynote to success, however, lies in hitting the ball well on top with a very sharp twist, the ball rolling across the entire face of the strings before it leaves it, and in striking it very much harder than would be possible to bring an ordinary service within the court.

## How to Build and Keep a Court

Nothing is more important for the full enjoyment of lawn tennis than a satisfactory court, and none of the other accessories of the game offers a wider variety. Many important considerations come up even after the kind of court to be built, and the cost, have been decided upon. No matter how much is to be spent on the ground, nor what the surface is to be, the most important things to consider first are space, light and drainage.

The back-stop nettings should never be nearer than fifteen feet from the lines, and if good players are expected to use the court, particularly if tournament matches are to take place on it, the space behind the base-line should be 21 feet at each end. At the sides at least 6 feet, if possible 12 feet should be allowed beyond the side-lines for doubles of each court. A well-appointed court for tournament play should be centered in an unobstructed space of not less than 60 x 120 feet. Wire back-stop netting 10 or 12 feet high should surround it at these distances from the lines. If there are two or more courts together, there should be at least 12 feet between their side lines, and one netting can surround all.

In selecting a site for a court, a spot should be chosen where there is always plenty of sunlight, and where at no time of the day does any shadow cross the ground on which the court is to be laid. Green or black is a preferable background to play against, but any dark and even color will do. A court should never be laid out with any very light background within a short distance at either end, or close at either side. Nor should a site be selected with a badly mixed or moving background. Shade trees are useful near a court only if their shadow is a solid one, not constantly checkered by flecks of sunlight glittering through moving branches, which constantly confuse the players. Never

should they be allowed near enough to cast any shadows on the playing surface.

One more cardinal point should be remembered. The court should invariably be laid out north and south—never east and west. If this warning is disregarded, the player at one end or the other will be hopelessly blinded by the sun.

The question of drainage is one of the most important considerations in selecting a site of this kind. On the natural facilities depends largely the cost of laying out a good court. If the natural soil be sandy and well drained, or if it is on high ground which slopes away near by, artificial drain pipes will not have to be put in, and this saves much of the cost, but if it be thick clay that holds moisture long, or on low ground with neighboring slopes that drain toward it, the court will be useless for many hours after each rainfall unless artificial drain pipes are put in.

After the site has been selected, it must be decided whether a grass or "dirt" court is to be built. If the natural sod is luxuriant and the soil favorable for its growth, or if the court is not to be used enough to wear off the grass, a turf court will generally be found preferable, but if the ground is to be constantly in use, the sod will wear off and become "bald" unless there is space enough on the lawn to shift the court frequently.

When good turf cannot be had or will not stand the wear, a substitute must be found, and sand or dirt courts are most often used. On well-drained land, one can sometimes cut away the top surface, level the ground and roll it until well hardened and the court is ready for use, but more preparation is necessary to build a permanent court that will not be constantly losing its proper level.

For such a court the earth should be cut away to a depth of one foot if no drains are required. After leveling it carefully with a spirit level, to be sure that the grade is right, a layer of six inches of broken stone should first be laid and pounded down hard. Ordinary trap-rock used for macadmizing roads is perhaps the best for this purpose, but any broken stone, ranging in sizes from a walnut to an egg, will answer the purpose. This should

be covered with a three-inch layer of coarse gravel or fine broken stone, which should be thoroughly pounded and watered for several days before being covered. Before any surface is put on the court, the greatest care should be taken to see that the foundation is perfectly level, or, rather that the center of it is not more than one inch lower than at the ends. Any holes or depressions that appear from rolling and pounding should be filled in before it is covered.

Every well-built court should be graded toward the net, and a drain-pipe well-protected with broken stone should be sunk at right angles to the court, dividing it in halves at the net. Toward this gutter the surface of the court should be drained and the drain-pipe in turn should be tilted enough to carry the water to one side well off the grounds, into some lower spot, or be connected with some sunken hogshead or regular sewer. A surface grade of one inch is enough to keep the average court dry. The base lines therefore should be one inch higher than the ground at the net, and if the soil is sandy enough to take up most of the water from the average rainstorm, no drain but that under the net will be necessary. Some players prefer the court to drain from end to end, in which case the court should grade gradually so that one end is two inches lower than the other.

If artificial drainage is necessary to keep the court dry, drain-pipes can be laid in the foundations of the court. This can be done by getting six-inch stone sewer-pipes cut in halves, or stone gutters used on tiled roofs, and sinking them in the ground, open side up, immediately under the foundation of broken rock. Two or three should be placed on each side of the net, parallel with the side-lines and graded down toward the center gutter under the net. These pipes should be filled with coarse pebbles or cracked stones about the size of walnuts, and they keep the drains from filling up with earth. The water will then trickle through the coarse sand and stones to the pipes and be carried down to the main gutter and so off the court.

The covering for a gravel or sand court should be not less than three nor more than six inches in thickness, and of sandy

loam and clay mixed. The proportions depend on the quality of the clay. If it is very binding and sticky, one part of sand to two of clay are preferable, but for the average ingredients they should be mixed about four parts of clay to one part of sand. When the court is finished, if it is found to be too soft but dry, more clay should be added; while if it drains poorly and stays muddy too long after rain, or its surface is too sticky for the player's feet, more sand should be added on the surface. When a court is finally covered, it should be thoroughly watered and rolled alternately twice every day for two weeks before it is played on at all, and any depressions or uneven spots corrected as fast as they appear from the settling. After the first heavy rain-storm it should be gone over and releveled most carefully, for then it is most likely to develop new faults.

The fine seashore sand will seldom be found satisfactory for the surface of a court, for it works loose too quickly under the players' feet, and can only be made to bind when mixed with a larger proportion of clay, which will make the drainage more difficult, as water percolates very slowly through clay. If the soil upon which a court is being built is very rich and worms promise to work through to the surface above and injure the court, it is well to lay a layer of fine cinders, those from a railroad engine preferred, between the foundation and the sandy surface layer. These cinders effectually prevent worms from coming through to the surface. It is also well to use coarse sifted ashes mixed with the stones in the drain-pipes.

The construction of a grass court is less difficult, but varies much more in process. If cost need not be considered, it should be built by a professional, and will be laid on deep-laid foundations; if it is desired to build an economical court on an available lawn which is fairly level, the cost will not be heavy. The sod should first be carefully removed in squares of about eighteen inches, from a space at least 50 by 100 feet, cutting down to a depth of about six inches. The ground should then be turned with a spade to a depth of eighteen inches or two feet, and after all stones have been removed, and the earth carefully raked over

and leveled, it should be packed and rolled with a heavy roller It cannot have too much leveling and rolling, and the rolling should be kept up for several days with plenty of soaking by rain or hose-pipe. Any inequalities which the heavy pressure of the roller produces should be filled in or cut down before the sods are relaid.

After the ground has been rolled sufficiently the sods should be replaced. In doing this it is important to get the edges close together, so that no seams or open cracks can be found. These sods should be relaid in the afternoon and well drenched with water. The next day the ground should be rolled again; and this should be followed by alternate drenching and rolling for several days. Even when the ground finally appears firm and level, the court should not be played upon until new blades of grass appear in considerable numbers. If depressions appear, the sod at that spot should be lifted, fresh earth inserted to the proper grade and the sod replaced, watered and rolled till level and flat again.

Bad spots are often found where the grass is thin or where malignant weeds obstruct its growth, and in this case fresh sods should be bought or cut elsewhere and substituted. Sometimes large patches of ground must be renewed in this way, but it will be found much less expensive if all the turf is bad to sow the new court down with lawn seeds, and seeds will often help out thin spots in the grass if the court is not to be used too soon after the sowing. It is better to make a grass court in the fall whether it is to be sown with seed or sodded. The winter storms will then settle it thoroughly, and after a little releveling in the spring it will be ready for use.

Grass seeds should be sown between the middle of March and the first of May, or better yet, in the autumn, between the middle of August and the first of October. It takes about 20 pecks of good lawn seed to cover a space 60 by 120 feet. The sowing should be gone over twice, the second time at right angles to the first. Clover seeds should be avoided, as this grass does not wear well, and guano should not be used for fertilizing, for it tends to bring up coarse blades in patches.

As soon as the young grass is high enough to be topped, a scythe or sickle should be used, being at first better than the mowing machine. After the new grass is well hardened, however, the latter should be constantly in use, never less than once a week, and in moist warm weather nearly every day. With every precaution weeds are sure to appear, but these can generally be held in check by constant mowing. The more formidable weeds, however, must be cut with a knife one by one about an inch below the surface, and care being taken to remove as much of the root as possible. A pinch of salt dropped on the cut root will generally stop the growth. When the turf becomes worn in spots a small shift in the lines of the court will relieve the pressure and enable the grass to grow again; at the end of the season all of the bare patches should be resown.

There are several other kinds of court sometimes built when turf cannot be had. Cinders, clay, concrete, cement and asphalt are also sometimes used, while board courts are built under cover for winter use.

Concrete and cement are open to many objections. They are very hard on the eyes and legs, and often make the player's feet sore; the surface generally wears out the balls and shoes quickly, and it is also liable to crack with frost. Cinder courts are cheap and easy to construct, but the surface is so gritty that it burns the feet of the players and soon uses up the balls. They are also very dirty. Asphalt courts are expensive and much affected by heat and cold, sometimes even cracking with the frost.

In Australia courts have been made of cracked blue-stone, while a cheaper substitute has been found in England in what is called a brick rubble court.

Once the court is finally built and ready for use, it must be properly marked out. In every case, unless it be of grass, and the lines are to be constantly shifted to prevent bare spots, net-posts should be permanently sunk in the ground. They should be not less than two feet under the ground nor forty feet apart.

A double court contains every line used for singles, and so it is customary to mark a court for doubles, except occasionally

for important tournament matches in singles, when the outside lines are left off. In order to lay out a court properly the middle of the space should be measured and the two posts set down for the net. Then cord should be stretched along one side just inside the post and pegs driven down into the ground each 39 feet from the net. In order to prove that the side-lines are at right angles with the line of the posts where the net is to cross it should be proved by measuring with a tape-line or cord the diagonals from the opposite net-post to the corner peg at each end of the side-line, which should agree. A very useful implement for measuring is Spalding's Patent Angle Steel Measuring Tape. With it, any one can secure accurate right angles, yet it is also available for straight or any kind of measuring. It is 50 feet long, graduated in feet, inches and eighths of an inch, and is enclosed in hard leather case, with all mountings nickel-plated. The price is $4.00.

The pegs from the other two corners should be driven down next by measuring 36 feet at right angles from each end of the side-line already planned. Then you have a hollow square, but before marking any of the lines it should be proved again. The long diagonals, from corner to corner, should be carefully measured to agree, in order that the court shall be exactly rectangular, not diamond shaped. Each side-line and each base-line should be gone over again to prove its length accurate, and then the lines of this hollow square should be marked out. If the position of the court is not to be shifted it is a good plan to sink small angle plates to mark these four corners so that when a hard storm washes away the lines, they will not have to be laid out all over again.

The inner side-lines should be put in next, each parallel with the outer lines, and 4½ feet inside, measuring them at the base-lines and at the net to prove them parallel. One each of these pegs should be driven down just 18 feet from either end, and then they should be measured the other way to prove that each is 21 feet from the net and 42 feet from that at the opposite end. Across from each of these to that on the opposite side should be marked the service-lines, and then dividing these service-lines in half, the half-court line should be marked, its

distance being 13½ feet from each inner side-line. The court will then be completed and ready for use.

A good dirt court should be swept, watered, rolled and freshly marked out after every eight or ten sets of play, and oftener in very dry weather. Instantly a depression is discovered it should be filled in and rolled down before playing is continued, for it is almost as dangerous for the players as the court to continue with it uneven. A court should never be rolled in the condition the players leave it after play. A player's heel raises a little lump; if the roller goes over this before it is swept down even again, a hard ridge results and the ball will bound unevenly from it. It should be swept over first, until all the lumps are leveled down, before the roller is allowed on its surface.

One of the best sweepers is made of a heavy joist of wood with a dozen thicknesses of old jute bagging or coarse cloth frayed out at the bottom edges, fastened to its bottom and trailing on behind it. This should be drawn over the court with a handle or rope several times. If it is pushed, the groundsman's feet will leave tracks after it; if he goes ahead the sweeper will erase them. Before the lines are marked out fresh, the old ones should always be swept off with a broom, but if the broom is constantly used along the lines in a parallel direction, it will gradually wear away little grooves in the court where the lines are and the balls will bound improperly from them. The sweeping should be done lightly across the court, at right angles with the lines.

A grass court cannot have too much care. It is advisable to wet it thoroughly several times a week and roll it as often. It should be watered at night, cut in the morning, and rolled after cutting and before watering. The best way to repair a bare strip of ground is to lay fresh turf, and this should be done in the fall or as early as possible in the spring. Good tough turf, laid in February or early in March, will be fit for use by the first of June. In the early spring grass roots both in new turf and old may be greatly benefited by a good dressing of manure well worked in, but regular manuring should also be done in the fall.

Worm casts are very bad for good tennis turf. Particularly in fertile ground or after a storm, the little mounds will appear on the sod, and if the roller passes over them or they are trodden down little hard lumps are formed which spoil the surface of the court. The turf should always be swept before rolling, and in rich soil every morning. This scatters the mounds effectually. Where it is necessary to get rid of the worms, lime water should be sprinkled on the ground. They will then come to the surface and can be swept away.

When a horse mowing machine is used it is well to have the horse's hoofs covered with soft pads to prevent their cutting into the turf and leaving prints that affect the bound of the ball. The groundsman at work on good lawn tennis courts, particularly when the turf is soft, and always on a sand court, should be required to wear rubber-soled shoes without heels.

# New Thoughts on Training and Diet

By Eustace H. Miles.

[From the London Daily Mail.]

Before I outline my system of training let me also say that I have put it to very severe tests. It has held good in the severest heat (in New York) and in the severest cold (in New York, Tuxedo, and Montreal). At Montreal I played three complete racquet matches (not games) in succession without a break. And in the United States I several times played three hard tennis matches in one day. Moreover, I can keep up this standard of endurance without regular practice of the games. At the beginning of last year I lived an almost utterly sedentary life for three months, and then went off and played tennis hard for two hours.

Nor have I ever found it necessary, because of the training, to discontinue my brainwork, even up to the very day of an important competition. Nor have I had a single breakdown, or indeed any appreciable staleness—the bugbear of athletes—since I changed my diet.

In diet I do not hold to the absolute ideal, but I never go very far from it. A "hygienic ideal" would cut me off from most social meals altogether, and also perhaps from all stuffy and smoky rooms. So I keep myself slightly on the human side of supreme pinkness. I prefer two meals a day, at 10—11 and 4—5, or (with perhaps a fruit breakfast) at 12—1 and 6:30—7:30. But I can eat five meals.

I do not eat either flesh foods (fish, flesh, or fowl), or meat juices (in soups or otherwise), or eggs. Why not eggs? Because they do not suit me. Why not flesh foods? For the same reason and for many others.

Instead of the undeniably nourishing and stimulating flesh foods I substitute what I find to be a not less nourishing basis and staple to give me proteid or albumen which shall rebuild

the blood and cells of my body and repair its waste. We might, indeed, live on proteid matter alone, and with it, with the help of a few minerals (e. g., phosphates), renew every cell of the body, says Professor Sir Michael Foster.

Professors Gamgee, Pavy, and Bunge, and Dr. Robert Hutchinson, like most other authorities, insist on the importance of proteid, and set down our average daily amount at 4 to 5 ounces. This amount I easily get from milk-proteid (I use Plasmon), cheese, nuts (often milled or in nut-foods), wholemeal bread, or biscuits, peas or haricot beans or lentils (sometimes); the other elements of food I obtain chiefly from fruits, but sometimes from well-prepared vegetables.

Stimulants such as tea I do not altogether avoid. I never have smoked for more than a few seconds; all attempts have always made me ill. I can eat slowly; for several days I gave my mouthfuls over sixty bites each.

But to two practices I must adhere—to the deep full upward breathing through the nose; and also to the daily air-and-light-bath for the whole body, together with rubbing, self-massage, sharp exercises, and stretching exercises. One of the greatest shocks of my life was when I was performing thus on the sands near Hunstanton and suddenly say two undergraduates looking at me in fear and wonder from behind a rock. I now air-bathe in my bedroom. I can find no air-bath near London, queer London.

As to exercise, I never lift or carry weights except when I go shopping with ladies—this I do rarely. I consider that most weight-lifting tends to slowness and stiffness. My movements are chiefly brisk and full.

Equally important in my system is muscular relaxing; not mere stillness and not mere slackness, but freedom and economy.

Of course, in athletics we should relax most of the unused muscles. But I go further. I purposely relax my arms and hands, my legs and feet, my neck and spine. I relax my face, and smile (when I am alone). Why should I be tense and clench my fists and look almost as fierce as great American millionaires

and politicians do in their photographs? I cannot see a reason. So I try to look calm and not waste valuable energy in a worse than valueless way.

During brainwork I almost invariably aim at repose of the muscles—open channels through which, as through unknotted india-rubber pipes, the life-forces may smoothly flow. It is easiest to relax during the slow breathing outwards. It seems vital for me to relax both before and after great physical or mental efforts. That is a personal experience. Here, as with diet, I dare not suggest a law. I dare only suggest a plan worth trying. *Experientia docet.* Experience must be our teacher. By their fruits ye shall know them. If worry and anxiety be thus removed, have we not here the cheapest of all nerve sedatives?

Water seems to me to have at least two distinctive functions. Warm water serves to soothe, and to cleanse. Let it be soft, whether it be rain-water or water distilled or else softened by oatmeal or some "salts," and let it be used with pure soap and friction. Cool or cold water serves to invigorate and harden. Cool or cold water should be used after warm water. The body may be sponged part by part, just as air-baths may be partial. And then should follow rubbing, and perhaps exercise, and certainly stretching of the limbs. How sadly we need it!

Sandals may be worn whenever one has the courage.

Though one of the greatest pleasures of my life was to have done over sixteen hours of hard brainwork in a day—once I reached eighteen—yet among the greatest pleasure I also reckon the consciousness of energy and endurance. I utterly disbelieve in the negative theory of health—that one should not be aware of the body. It ought to be a real joy to live. I love to feel each muscle tingle and thrill. I love to have to move briskly every now and then especially with the shoulders and the legs, from sheer vitality. Surely our healthy nerves should be to us a joy rivalling the joy from taste or music.

# Spalding Gold Medal Rackets

THE SUCCESS we have met with in putting out this racket accompanied by the broadest guarantee ever given on an article of this kind is the best evidence as to the truth of our assertions regarding the great care which we exercise in watching every detail of its manufacture. The racket is sold upon its own reputation and the Spalding Guarantee is your assurance of satisfaction.

The difference between Styles A and B is in the additional strings reinforcing the central portion of the latter. Handles 5 and 5¼ inches in circumference. Stringing of clearest and absolutely best quality lambs' gut. Tag attached to each racket, giving particulars of special inspection. Each racket enclosed in special quality mackintosh cover.

We use a dogwood insertion in shoulders, after proving to our satisfaction, by experience, that it is far superior to cane or other material for the purpose.

## GUARANTEE

WE guarantee Lawn Tennis Rackets for a period of 30 days from date of purchase by the user. The Guarantee Tag attached to each Spalding Lawn Tennis Racket reads as follows: If this Racket proves defective in workmanship or material within 30 days from date of purchase, please return, transportation charges prepaid, to any Spalding Store, and the defect will be rectified. Imperfectly strung Rackets will be restrung, and in the event of a broken frame due to workmanship or defective material, the Racket will be replaced. **Notice.**—This Guarantee does not apply to Rackets weighing less than 13 ounces.

We urge that at the conclusion of play this Racket be rubbed dry, and when not in use be covered with a Waterproof Cover, placed in a Racket Press, and the gut occasionally varnished.

**KEEP YOUR RACKET IN A DRY PLACE, otherwise the Guarantee is Void.**

**No. GM.** EITHER STYLE A OR STYLE B STRINGING. **Each, $8.00**

ACCEPT NO SUBSTITUTE THE SPALDING TRADE-MARK GUARANTEES QUALITY

# Spalding "Perfect Oval" Hackett and Alexander Model Racket No. OGM

PATENTED JANUARY 3, 1905

We give same guarantee with this racket as with Gold Medal Models A and B.

MADE in the SPALDING "Perfect Oval" Model with walnut throat piece, dogwood reinforcement and vellum wrapped shoulders. We claim that this is a scientifically perfect lawn tennis racket, and the experience of two of the most successful players in this country who use this racket in their most important matches goes far to prove the truth of our assertion.

Handles 5 and 5¼ inches in circumference. Stringing of clearest and absolutely best quality lambs' gut. Each racket is enclosed in a special quality mackintosh cover.

**No. OGM.** SPALDING "PERFECT OVAL" HACKETT AND ALEXANDER MODEL RACKET. Each, **$8.00**

# Spalding Gold Medal Oval Model Racket No. GME

PATENTED JANUARY 3, 1905
PATENTED JUNE 12, 1906

We give same guarantee with this racket as with Gold Medal Models A and B.

THIS racket is made exactly the same as our Gold Medal models No. A and No. B except as to stringing and shape of the head, which is made oval to meet the demand for that shape.

The stringing is double style, similar to that in the Gold Medal Model No. B.

Handles 5 and 5¼ inches in circumference. Stringing of clearest and absolutely best quality lambs' gut. Each racket is enclosed in a special quality mackintosh cover.

**No. GME.** SPALDING GOLD MEDAL OVAL MODEL RACKET. . . . . Each, **$8.00**

PROMPT ATTENTION GIVEN TO ANY COMMUNICATIONS ADDRESSED TO US

A. G. SPALDING & BROS.
STORES IN ALL LARGE CITIES

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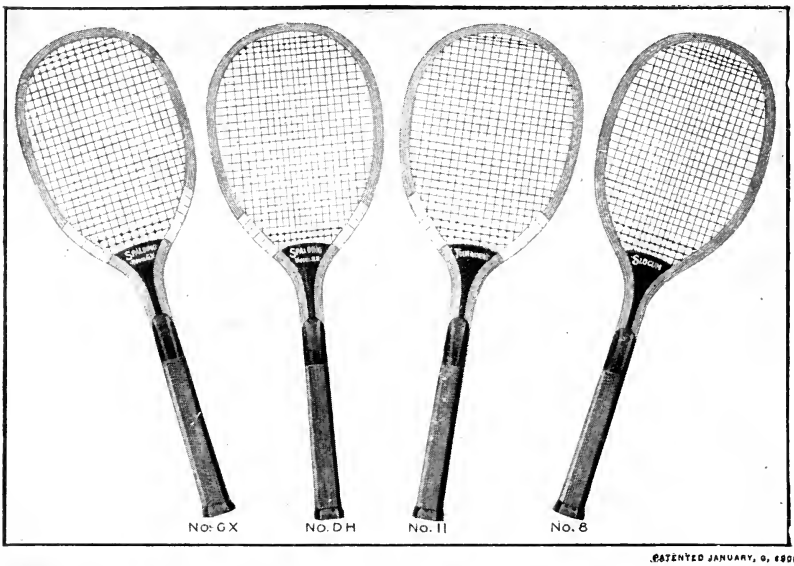


PATENTED JANUARY, 6, 1903

# The Spalding Tennis Rackets

THE good points in the following rackets can be vouched for by some of the most successful of last season's players. In all of them quality of material and workmanship is superb and perfect balance assured. Each frame made of finest white ash, highly polished; combed Spanish cedar handle, leather capped.

**Model GX.** Gold Medal shape. Taped shoulders; strung with best lambs' gut. This racket is equal to the best of any other make. Each, **$5.00**

**Model DH.** Hand made throughout and strung with special quality lambs' gut. Modeled after style racket used exclusively by some of the greatest players in the world. Extra stringing in central portion of racket. Each, **$5.00**

**No. 11. The Tournament.** Taped shoulders; strung with good quality lambs' gut. A very popular model. Each, **$4.00**

**No. 8. The Slocum.** Oval shape, good quality frame, strung with special Oriental gut. A very superior racket at a moderate price. Extra stringing in central portion of racket. Each, **$3.50**

## GUARANTEE

We guarantee Lawn Tennis Rackets for a period of 30 days from date of purchase by the user The Guarantee Tag attached to each Spalding Lawn Tennis Racket reads as follows: If this Racket proves defective in workmanship or material within 30 days from date of purchase, please return, transportation charges prepaid, to any Spalding Store, and the defect will be rectified Imperfectly strung Rackets will be restrung, and in the event of a broken frame due to workmanship or defective material, the Racket will be replaced.

### NOTICE

This Guarantee does not apply to Rackets weighing less than 13 ounces.

We urge that at the conclusion of play this Racket be rubbed dry, and when not in use be covered with a Waterproof Cover, placed in a Racket Press, and the gut occasionally varnished.

**Keep Your Racket in a Dry Place, Otherwise The Guarantee is Void.**

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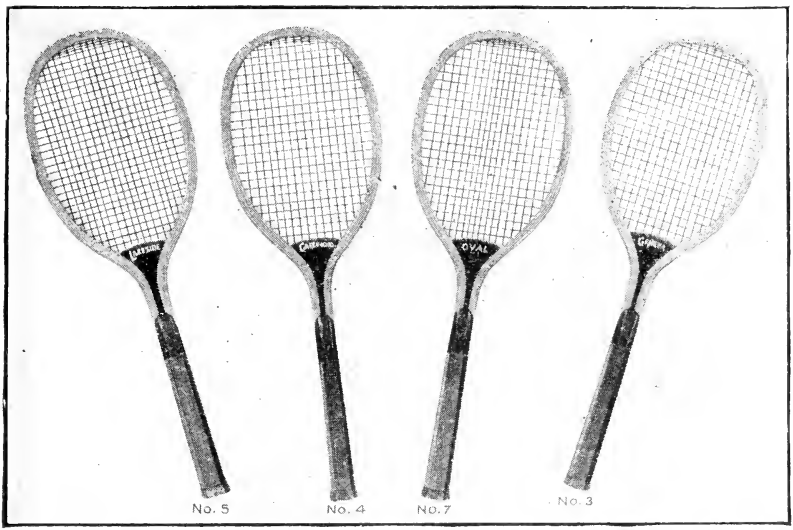


No. 5 No. 4 No. 7 No. 3

PATENTED JANUARY 3, 1905

# The Spalding Tennis Rackets

## GUARANTEE

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**Keep Your Racket in a Dry Place, Otherwise The Guarantee Is Void.**

No. **7.** THE OVAL. Oval shape, good quality white ash frame, strung with special Oriental gut. Made with extra stringing in central portion of racket. . Each, **$2.50**

THE following rackets are all excellent quality. Frames of the finest selected white ash, highly polished, with combed Spanish cedar handle, leather capped; stringing of good quality Oriental gut.

| | | |
|---|---|---|
| No. **5.** | THE LAKESIDE. . . . . | Each, **$3.00** |
| No. **4.** | THE GREENWOOD. . . . . | " **2.00** |
| No. **3.** | THE GENEVA. . . . . | " **1.50** |

## Spalding Junior Champion Racket

Made particularly for juvenile use, with small grip and in weights from 10 to 12 ounces inclusive, only. Frame of selected white ash, highly polished Oriental gut stringing. A good playing racket for boys and girls.

No. **OJ.** Each, **$2.00**

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# Spalding Championship Tennis Ball

**PERFECT** INFLATION COVERING SEWING

ON the record made by the Spalding Championship Tennis Ball so far we are willing to base our claims for superiority, and wherever the ball is used, either in a tournament or regular play, we are certain our judgment will be confirmed. Absolutely best in every particular of manufacture and made by people who have been in our employ, many of them, for twenty years and over, we place the Spalding Championship Tennis Ball before the most critical clientele in the athletic world with perfect confidence that it will give absolute satisfaction.

**No. 00. Per dozen, $5.00**

**Three balls only, . $1.25**

**One or two balls. Each, .45**

**Wright & Ditson Championship Tennis Ball**

No. **5.** So well known that comment as to its qualities is unnecessary. Per dozen, **$5.50**

*On orders for NOT less than 1 gross.* Per gross, **$60.00**

**Tournament Tennis Ball**

No. **0.** In the manufacture of the Spalding Championship Ball only those which are absolutely perfect in every particular are allowed to pass, and the "culls" or "throw-outs" are stamped simply Tournament and do *not* bear the Spalding Trade-Mark. These balls will answer for practice or for children's use but should *not* be used for match play.

Per dozen, **$3.50**

Each, **.30**

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## Spalding Racket Covers

No. 7

No. GM

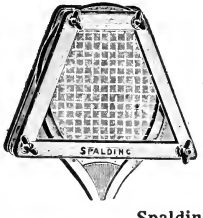
No. 14

No. 5

**No. 0.** Brown and mixed colored canvas cover, full size. Each, $ .35
**No. 1.** Soft felt cover, full size. . . . . .50
**No. GM.** Good quality mackintosh material, and same exactly as we furnish with our Gold Medal Rackets. . . . . Each, $1.00
**No. 14.** Canvas cover, neatly bound, with extra pocket to hold balls. 1.00
**No. 5.** Stiff leather, for one racket. . . . . Each, 5.00
**No. 7.** Stiff leather, for two rackets. . . . . " 7.00

## English Leather Tennis Bag

**No. 12.** Made of special quality leather and with compartments to hold rackets, balls and suit. Each, $12.00




## Rackets Restrung

We make a specialty of restringing rackets of every known make. The work is done by our most scientific stringers, and none but first quality gut is used. When sending rackets to us to be restrung be sure to prepay charges on the package and mark with your name and address. Write us under separate cover full particulars regarding restringing.

**No. 1.** Oriental Gut, White only. Each, $1.00
**No. 2.** Lambs' Gut, White only. Each, $1.50
**No. 3.** Best Lambs' Gut, White only. Each, $2.50
**No. 4.** Special Expert Stringing, White only. Each, $3.50

## Racket Presses

The most effective press in use to-day. Rackets should be kept in one of them when not in use to prevent warping, especially when they have been exposed to moisture or used at the seashore.
No. 1R. For one racket. $1.00
No. 5R. Superior quality. Made of finely polished walnut, with brass fittings. Suitable for either one or two rackets. Each. $2.50

## Rubber Handle Cover

No. 3. For covering racket handles to secure a better grip. Made of pure gum rubber, corrugated. Will give excellent satisfaction. Each, 50c.

## Rubber Adhesive Tape for Racket Handle Grip

No. A. Made especially for this purpose, 1 inch wide. Piece 4 feet long in individual box. . Each, 10c.

## Varnish to Preserve Stringing

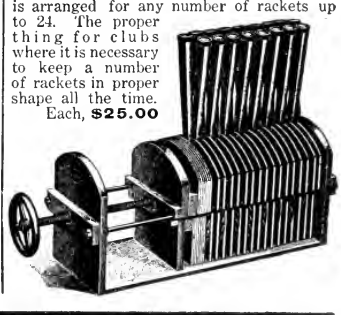
Apply immediately after playing, as it takes a little time to dry thoroughly. Two-ounce bottle of special quality varnish, complete with good brush in box. Per bottle, 25c.

## Spalding Lawn Tennis Score Books

Official Lawn Tennis Score Book, paper cover, 16 sets. 10c.
Extra Tennis Score Cards, 4 sets. Per dozen, 10c.

## Spalding "Club" Racket Press

*Invaluable for Clubs Conducting Tournaments.*
No. C-P. This is a most substantial affair and is arranged for any number of rackets up to 24. The proper thing for clubs where it is necessary to keep a number of rackets in proper shape all the time. Each, $25.00

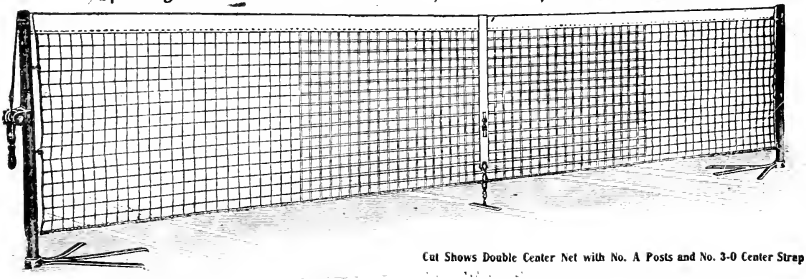


# Spalding Hand Made Nets

**We recommend most strongly our hand made nets. Quality of material and workmanship is absolutely the best, and they are well worth many times the additional cost over the ordinary machine made styles on account of their greater durability. If posts are placed just 42 or 36 feet apart, nets will fit exactly when drawn taut.**

## Spalding Patent Double Center Nets (Hand Made)

Patented December 4, 1888
Patented April 9, 1889



Cut Shows Double Center Net with No. A Posts and No. 3-0 Center Strap

These have double twine knitted together from 11 to 13 feet, according to the size of the net. Will outlast two or more ordinary nets.

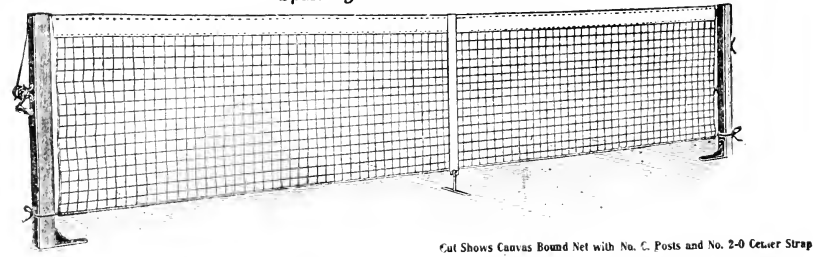
| | *White, 21 Thread, Double Court.* | EACH | | *White, 15 Thread, Double Court.* | EACH |
|---|---|---|---|---|---|
| No. 3D. | 42 ft. x 3 ft., double center 13 ft. | **$6.50** | No. 3C. | 42 ft. x 3 ft., double center 13 ft. | **$5.00** |
| No. 2D. | 36 ft. x 3 ft., double center 11 ft. | **6.00** | No. 2C. | 36 ft. x 3 ft., double center 11 ft. | **4.50** |

## Spalding Canvas Bound Nets NOT Double Center

*Top bound with heavy 2-inch canvas strip.*

| | | |
|---|---|---|
| No. 3B. | Double Court, hand made, 42 ft. x 3 ft., 21 thread, white. | Each, **$4.50** |
| No. 2B. | Double Court, hand made, 36 ft. x 3 ft., 21 thread, white. | " **4.00** |

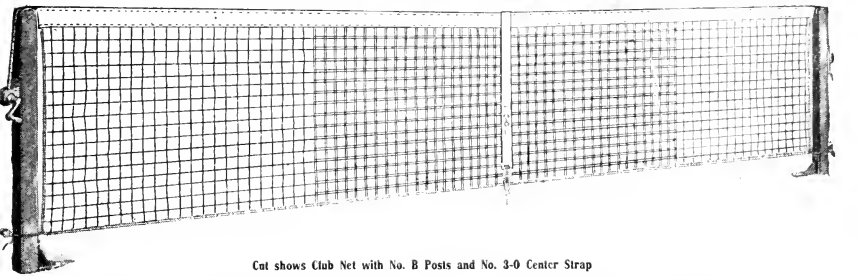
## Spalding Machine Made Nets



Cut Shows Canvas Bound Net with No. C. Posts and No. 2-0 Center Strap

| *Top and bottom bound with heavy cotton rope—White.* | | | *Top bound with heavy 2-inch canvas strip—White.* | | |
|---|---|---|---|---|---|
| No. 1. | Single Court, 27 ft., 12 thread. | Each, **$1.00** | No. 2A. | Double Court, 36 ft., 15 thread. | Each, **$1.75** |
| No. 2. | Double Court, 36 ft., 15 thread. | " **1.25** | No. 3A. | Double Court, 42 ft., 15 thread. | " **2.00** |
| No. 3. | Double Court, 42 ft., 15 thread. | " **1.50** | | | |

# SPALDING BLACK TWINE CLUB NETS



Cut shows Club Net with No. B Posts and No. 3-0 Center Strap

### Spalding Club Nets—Black Twine (Hand Made)

Nets are dyed with fast coloring matter and by a special process which adds to their durability. Bound at top with a doubled band of 8 oz. white duck, 2 in. wide and equipped with heavy tarred manila ropes top and bottom.

No. **2-0.** 36 ft. x 3¼ ft., 21 thread, double center 11 ft., black twine, hand made . . Each, **$7.50**

No. **3-0.** 42 ft. x 3¼ ft., 21 thread, double center 13 ft., black twine, hand made . . Each, **$8.00**

No. **4-0.** 36 ft. x 3¼ ft., 30 thread, single center, black twine, hand made. . . . . Each, **$7.50**

No. **5-0.** 42 ft. x 3¼ ft., 30 thread, single center, black twine, hand made. . . . . Each, **$8.00**

### Galvanized Steel Cable for Top Cords

Full length ¼-inch galvanized steel cable, five strands of seven wires each, twisted tightly. With metal loop at each end and manila rope ends to fasten to post. Each, **$3.50**

### Spalding Tarred Nets

Tarred nets are hand made, bound with 10 oz. duck at top; furnished with galvanized wire cable instead of ordinary rope top cord. Full measurement as listed below.

No. **6-0.** 33 ft. x 3¼ ft., 21 thread. Each, **$9.00**

No. **7-0.** 42 ft. 6 in. x 3¼ ft., 21 thread. " **10.00**

### Spalding Twine Nets for Backstops

No. **4.** Machine Made, White, 50 feet long, 7 feet high, 9 thread. . . . . Each, **$2.50**

No. **5.** Machine Made, White, 50 feet long, 8 feet high, 12 thread. . . . . Each, **$3.50**

No. **5X.** Tarred, Machine Made, 50 feet long, 8 feet high, 12 thread. . . . Each, **$4.00**

### Spalding Wood Backstop Post

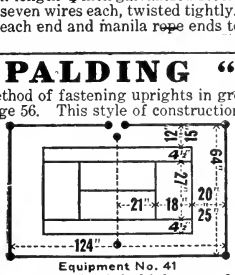
No. BS. Backstop Post only; wooden. Each, **$1.25**

### Spalding Guy Ropes and Pegs

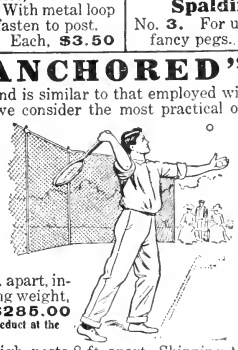
No. **3.** For use with Backstop Posts; cotton ropes, fancy pegs. For one pair of Posts. . Per set, **85c.**

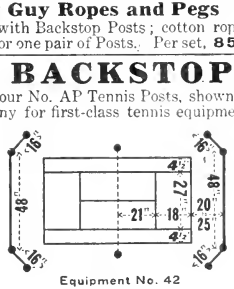
# SPALDING "ANCHORED" BACKSTOPS

Method of fastening uprights in ground is similar to that employed with our No. AP Tennis Posts, shown on Page 56. This style of construction we consider the most practical of any for first-class tennis equipment.




Equipment No. 41






Equipment No. 42

No. **41.** 376 ft., 8 ft. high, posts 8 ft. apart, including corner posts and gates. Shipping weight, 3650 lbs. . . . . **$285.00**

**For greater or less quantity than 376 ft., add or deduct at the rate of 63 cents per foot.**

No. **401.** Same as No. 41, but 10 ft. high, posts 8 ft. apart. Shipping weight, 4050 lbs. . . . . **$325.00**

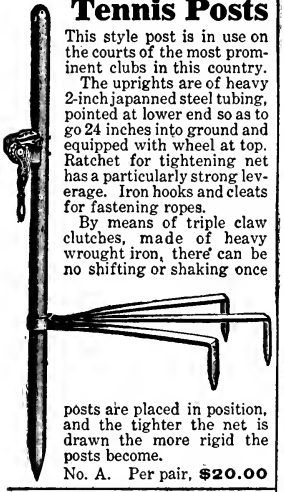
**For greater or less quantity than 376 ft. of 10 ft. high, add or deduct at the rate of 73c. per foot.**

No. **42.** 160 ft., 8 ft. high, posts 8 ft. apart, including end and corner posts. Shipping weight, 1850 lbs. **$140.00**

No. **402.** Same as No. 42, but 10 ft. high, posts 8 ft. apart. Shipping weight, 2050 lbs. . **$160.00**

**Prices for these sets of "Anchored" Back Stop equipment are on board cars New York City. Complete instructions for setting up of these fences, also blue prints showing location of posts and all details, are furnished with each order. Any intelligent mechanic following these instructions can set the fence. We will, however, if desired, supply men to do this work, our charge for which is $8.00 per day and expenses (traveling and board) for two men—man and helper.**

## Spalding "Championship" Tennis Posts

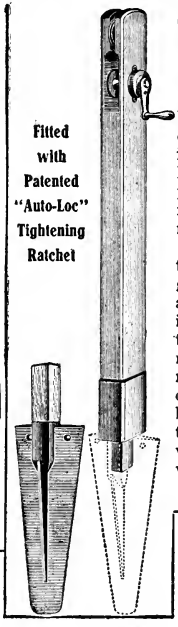


This style post is in use on the courts of the most prominent clubs in this country.

The uprights are of heavy 2-inch japanned steel tubing, pointed at lower end so as to go 24 inches into ground and equipped with wheel at top. Ratchet for tightening net has a particularly strong leverage. Iron hooks and cleats for fastening ropes.

By means of triple claw clutches, made of heavy wrought iron, there can be no shifting or shaking once posts are placed in position, and the tighter the net is drawn the more rigid the posts become.

No. A. Per pair, **$20.00**



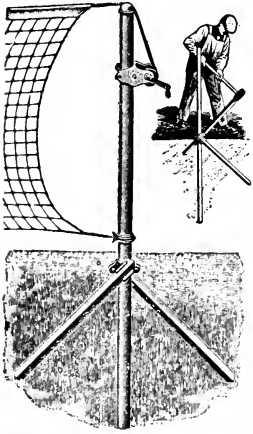
**Fitted with Patented "Auto-Loc" Tightening Ratchet**

## Spalding "Auto-Loc" Tennis Posts

We recommend these posts especially for private courts or wherever it is desirable to remove posts immediately after play is finished. The "Auto-Loc" tightening ratchet is a patented device which permits the closest adjustment in tightening and regulating the height of the net, and locks automatically and instantly as soon as released.

The spade-shaped iron sockets with which these posts are equipped are driven into the ground in the proper position for the posts, which are fitted with iron bases terminating in square iron extensions which fit exactly the sockets in the spade bases and keep the posts absolutely rigid when placed in position. When posts are removed from sockets there is no projecting obstruction, and we furnish a block of wood to be inserted in the hole in each socket as soon as the posts are taken up. We also furnish hooks with handles for removing sockets from ground whenever it may be necessary to do so.

No. AL. Per pair, **$18.00**



## Spalding "Anchored" Steel Tennis Posts

Furnished with the most reliable and rigid method of fastening upright posts permanently that has ever been brought to our attention. Posts are made of galvanized steel tubing, 2½ inches in diameter, and are driven into ground where they are held securely in place by anchor stakes driven through sockets on the sides of the posts.

One post in each pair is fitted with a special ratchet for tightening the top rope and with cleat for bottom rope, the other post being fitted with two cleats.

No. AP. Per pair, **$10.00**

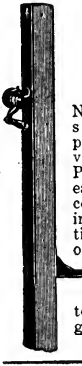
## The Spalding "Club" Tennis Posts

Our "Club" Tennis Posts are made of best quality 2¾-inch square ash, nicely polished and varnished, equipped with japanned braces so as to make posts absolutely rigid, and when set in position the posts extend 30 inches into the ground.

We call particular attention to the extra heavy brass ratchet with which we equip this style post. It is made after an English design, and is the same as supplied by our London House to some of the best clubs in Great Britain.

No. B. Per pair, **$10.00**

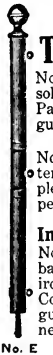
**A properly equipped Lawn Tennis Court needs properly made Posts, something more than two sticks of wood**



## Spalding "Casino" Tennis Posts

No. **C.** Extra heavy square wood posts, painted red and nicely varnished and striped. Pulley wheel at top of each post to take top cord of net, and reel of improved pattern, to tighten net, attached to one post. Extra heavy japanned iron brackets to steady posts, which extend 30 inches into the ground when set up.

Per pair, **$7.50**



## Spalding Tennis Poles

No. **E.** Finely polished, solid, spiked tennis poles. Packed complete with guy ropes and pegs.
Per pair, **$2.00**

No. **F.** Good quality solid tennis poles. Packed complete with guy ropes and pegs. Per pair, **$1.00**

### Indoor Tennis Poles

No. **G.** Made with iron base and spike to fit into iron plates in the floor. Complete with plates, tees, guy ropes and everything necessary for setting up.

No. E Per pair, **$2.50** No. G

## Spalding Tennis Posts

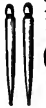
No. **D.** Square posts of wood, handsomely painted in red, with black striping; japanned iron bracket braces to steady posts, which are inserted 24 inches into the ground. No guy ropes are necessary with these tennis posts.

Per pair, **$4.00**

### Spalding "Side Line" Tennis Posts

No. **SL.** By using these posts it is possible on a court laid out with posts and net for "doubles" to put the net at the proper height for a single court game, and that without taking down net or removing regular double court posts. . . . . Per pair, **75c.**

### Guy Ropes and Pegs for Tennis Nets



No. **1.** Cotton ropes, plain pegs. Set, **25c.**
No. **2.** Cotton ropes, plain pegs. Set, **50c.**
No. **3.** Cotton ropes, fancy pegs. Per set. **65c.**
(*No. 3 will answer for Backstop Nets.*)

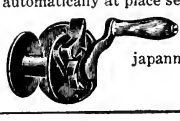
### Pulleys and Axles

No. **0.** Japanned pulleys, complete with axles, for top of tennis posts. Per pair. **35c.**

No. L

### Reels for Tennis Posts

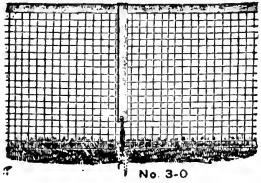
No. **L.** "Auto-Loc" Patented Reel for Tennis Posts. Made with automatic locking ratchet device, which makes it possible to adjust height of net exactly and locks automatically at place set. . Each, **$5.00**



No. **R.** Regulation style, japanned finish, wooden handle.

Each, **$1.50**

### Canvas Center Straps



No. 3-0

No. **2-0.** This device for holding center of net at regulation height, three feet, is vastly superior to the ordinary center iron; does not chafe the net, and cannot possibly cause the ball to glance off and strike out of court.
Each, **$1.00**

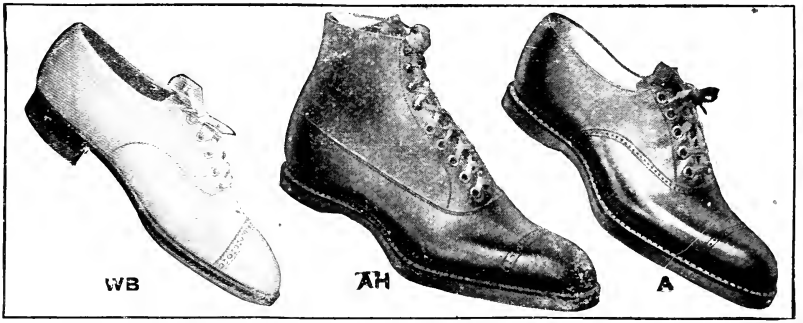
No. **3-0.** Tournament Pattern, same as No. 2-0, only fitted with a turn-buckle, with which height of net can be adjusted to a hair. Very desirable for tournament or match games. . . . . Each, **$1.25**

### Iron Center Forks

No. **2.** Good quality, iron fork. Each, **$1.00**

ACCEPT NO SUBSTITUTE THE SPALDING TRADE-MARK GUARANTEES QUALITY

# Spalding Lawn Tennis and Outing Shoes



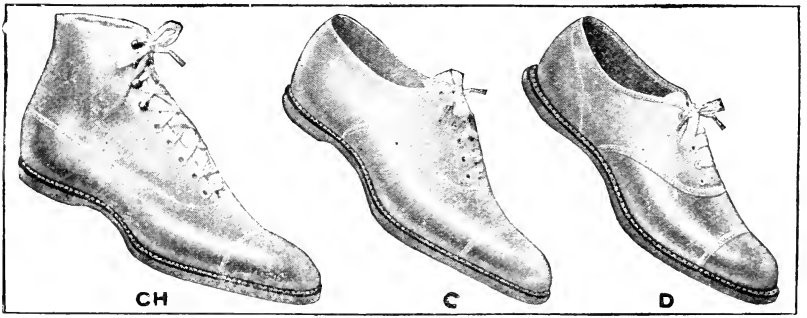

**These shoes are particularly suitable for Lawn Tennis, Yachting and general Outing purposes.**

No. WB. Low cut. White buck, of English tanning. Will *not* turn yellow. Best quality white rubber soles. Hand sewed and strictly bench made. Per pair, **$3.00**

No. AH. High cut, russet leather, with best red rubber flat sole. Hand sewed and of absolutely best grade material throughout. Per pair, **$5.50**

No. A. Low cut, russet leather, with best red rubber flat sole. Hand sewed. Quality same as No. AH. Per pair, **$5.00**

*We recommend also our No. BBH Special Cricket Shoe, and our No. AB Special Basket Ball Shoe, as very suitable indeed for use as Lawn Tennis and Outing Shoes.*




No. CH. High cut, best white canvas, fine quality white rubber flat sole. Hand sewed. Pair, **$4.50**

No. C. Low cut, best white canvas, fine quality white rubber flat sole. Per pair, **$3.50**

No. D. Low cut, white canvas, red rubber flat sole. Per pair, **$1.50**

**Spalding Sweat Band** Useful for players who are obliged to wear eye glasses and who are troubled in play with perspiration dropping on them and blurring the vision. Used by some of the most prominent players. No. 1. Each. **50c.**

PROMPT ATTENTION GIVEN TO ANY COMMUNICATIONS ADDRESSED TO US

**A. G. SPALDING & BROS.**
**STORES IN ALL LARGE CITIES**

FOR COMPLETE LIST OF STORES SEE INSIDE FRONT COVER OF THIS BOOK

Prices in effect January 5, 1911. Subject to change without notice. For Canadian prices see special Canadian Catalogue.

ACCEPT NO SUBSTITUTE THE SPALDING TRADE-MARK GUARANTEES QUALITY

# SPALDING'S NEW ATHLETIC GOODS CATALOGUE

THE following selection of items from Spalding's latest Catalogue will give an idea of the great variety of ATHLETIC GOODS manufactured by A. G. SPALDING & BROS. SEND FOR A FREE COPY. (See list of Spalding Stores on inside front cover of this book.)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# Standard Policy

A Standard Quality must be inseparably linked to a Standard Policy.

Without a definite and Standard Mercantile Policy, it is impossible for a manufacturer to long maintain a Standard Quality.

To market his goods through the jobber, a manufacturer must provide a profit for the jobber as well as the retail dealer. To meet these conditions of Dual Profits, the manufacturer is obliged to set a proportionately high list price on his goods to the consumer.

To enable the glib salesman, when booking his orders, to figure out attractive profits to both the jobber and retailer, these high list prices are absolutely essential; but their real purpose will have been served when the manufacturer has secured his order from the jobber, and the jobber has secured his order from the retailer.

However, these deceptive high list prices are not fair to the consumer, who does not, and, in reality, is not ever expected to pay these fancy list prices.

When the season opens for the sale of such goods, with their misleading but alluring high list prices, the retailer begins to realize his responsibilities, and grapples with the situation as best he can, by offering "special discounts," which vary with local trade conditions.

Under this system of merchandising, the profits to both the manufacturer and the jobber are assured; but as there is no stability maintained in the prices to the consumer, the keen competition amongst the local dealers invariably leads to a demoralized cutting of prices by which the profits of the retailer are practically eliminated.

This demoralization always reacts on the manufacturer. The jobber insists on lower, and still lower, prices. The manufacturer, in his turn, meets this demand for the lowering of prices by the only way open to him, viz.: the cheapening and degrading of the quality of his product.

The foregoing conditions became so intolerable that, ten years ago, in 1899, A. G. Spalding & Bros. determined to rectify this demoralization in the Athletic Goods Trade, and inaugurated what has since become known as "The Spalding Policy."

The "Spalding Policy" eliminates the jobber entirely, so far as Spalding Goods are concerned, and the retail dealer secures his supply of Spalding Athletic Goods direct from the manufacturer under a restricted retail price arrangement by which the retail dealer is assured a fair, legitimate and certain profit on all Spalding Athletic Goods, and the consumer is assured a Standard Quality and is protected from imposition.

The "Spalding Policy" is decidedly for the interest and protection of the users of Athletic Goods, and acts in two ways:

FIRST—The user is assured of genuine Official Standard Athletic Goods, and the same fixed prices to everybody.

SECOND—As manufacturers, we can proceed with confidence in purchasing at the proper time, the very best raw materials required in the manufacture of our various goods, well ahead of their respective seasons, and this enables us to provide the necessary quantity and absolutely maintain the Spalding Standard of Quality.

All retail dealers handling Spalding Athletic Goods are required to supply consumers at our regular printed catalogue prices—neither more nor less—the same prices that similar goods are sold for in our New York, Chicago and other stores.

All Spalding dealers, as well as users of Spalding Athletic Goods, are treated exactly alike, and no special rebates or discriminations are allowed to anyone.

Positively, nobody; not even officers, managers, salesmen or other employes of A. G. Spalding & Bros., or any of their relatives or personal friends, can buy Spalding Athletic Goods at a discount from the regular catalogue prices.

This, briefly, is the "Spalding Policy," which has already been in successful operation for the past ten years, and will be indefinitely continued.

In other words, "The Spalding Policy" is a "square deal" for everybody.

A. G. SPALDING & BROS.

By A. G. Spalding.

PRESIDENT.

# Standard Quality

An article that is universally given the appellation **"Standard"** is thereby conceded to be the Criterion, to which are compared all other things of a similar nature. For instance, the Gold Dollar of the United States is the Standard unit of currency, because it must legally contain a specific proportion of pure gold, and the fact of its being Genuine is **guaranteed** by the Government Stamp thereon. As a protection to the users of this currency against counterfeiting and other tricks, considerable money is expended in maintaining a Secret Service Bureau of Experts. Under the law, citizen manufacturers must depend to a great extent upon Trade-Marks and similar devices to protect themselves against counterfeit products—without the aid of "Government Detectives" or "Public Opinion" to assist them.

Consequently the "Consumer's Protection" against misrepresentation and "inferior quality" rests entirely upon the integrity and responsibility of the "Manufacturer."

A. G. Spalding & Bros. have, by their rigorous attention to "Quality," for thirty-three years, caused their Trade-Mark to become known throughout the world as a Guarantee of Quality as dependable in their field as the U. S. Currency is in its field.

The necessity of upholding the guarantee of the Spalding Trade-Mark and maintaining the Standard Quality of their Athletic Goods, is, therefore, as obvious as is the necessity of the Government in maintaining a Standard Currency.

Thus each consumer is not only insuring himself but also protecting other consumers when he assists a Reliable Manufacturer in upholding his Trade-Mark and all that it stands for. Therefore, we urge all users of our Athletic Goods to assist us in maintaining the Spalding Standard of Excellence, by insisting that our Trade-Mark be plainly stamped on all athletic goods which they buy, because without this precaution our best efforts towards maintaining Standard Quality and preventing fraudulent substitution will be ineffectual.

Manufacturers of Standard Articles invariably suffer the reputation of being high-priced, and this sentiment is fostered and emphasized by makers of "inferior goods," with whom low prices are the main consideration.

A manufacturer of recognized Standard Goods, with a reputation to uphold and a guarantee to protect, must necessarily have higher prices than a manufacturer of cheap goods, whose idea of and basis for a claim for Standard Quality depends principally upon the eloquence of the salesman.

We know from experience that there is no quicksand more unstable than poverty in quality—and we avoid this quicksand by Standard Quality.

A. G. Spalding & Bros

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